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THE
HALF-YEARLY ABSTRACT
OF THE 78687
MEDICAL SCIENCES:

BEING
A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,
AND OF
THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

EDITED BY
WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

VOL. LVI.

JULY—DECEMBER, 1872.



PHILADELPHIA:
HENRY C. LEA.
1873.

PHILADELPHIA :
COLLINS, PRINTER, 705 JAYNE STREET.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On some Questions Relating to Septicæmia.*¹

By M. BOULEY.

(*Gazette Médicale de Paris*, No. 39, 1872.)

THE author does not bring forward opposing and contradictory results to those reported by M. Davaine. He thinks only that it is necessary to inquire whether the statements of this observer are not in opposition to the results of clinical observations, and whether the law laid down by him is as applicable to certain large species of animals as it is to the animals of small species which M. Davaine made the subject of his experiments.

In other respects the researches of M. Davaine only confirm the facts previously discovered and reported by MM. Coze and Feltz Collin and others. From these facts it results that when one inoculates an animal with putrid material, a malady is produced which is characterized by bringing about such a modification that the blood of the inoculated animal acquires virulent properties of a higher power than that of the primary putrid material.

That which properly belongs to M. Davaine is the discovery of the fact of the unlimited development of the virulent power of the septicæmic blood. A drop of blood diluted to a trillionth, or even to a quadrillionth, suffices for killing an animal of the same species as that from which the septicæmic blood has been taken.

M. Bouley points out the difference which exists between the results obtained by M. Davaine and those described by M. Chauveau. This latter authority made experiments upon the effects of dilution of viri, and showed that just as the dilution was extended the properties of the virulent fluid diminished, and that at a certain moment the effects of inoculation became uncertain, sometimes positive, at others negative, according as with the point of the lancet was inoculated a virulent cell or simple serosity.

According to M. Davaine it is necessary to obtain a dilution of five milliards before one can make out any reduction in the strength of the virus.

M. Bouley thinks that the results of M. Davaine cannot be applied to species of large animals. The experiments of M. Collin have already demonstrated that the inoculation of putrid material kills small animals, such as pigeons, rabbits, etc., but has no results in the sheep, even when the virulent matter is inoculated in doses of eight or ten drops.

¹ Communicated to the Academy of Medicine, Paris.

Clinical observation has furnished M. Bouley with analogous results. In the cow, retention and putrefaction, either of the placenta or of the fœtus in the womb of the animal, gives rise to symptoms of septicæmia which are not always fatal. It is extremely probable that death would have been the termination of this septicæmia if the blood of the cow had acquired, in consequence of the absorption of putrid matters, a virulence similar to that met with in the animals experimented upon by M. Davaine.

Doubt concerning the infinitesimal virulence of the blood of septicæmic cows is further raised by consideration of the habitual harmlessness of manœuvres and operations practised on animals by veterinary surgeons. Thus M. Bouley has often been obliged to introduce the hand and arm into the organs of cows suffering in consequence of non-deliverance, and to retain them during two, three, or four hours in contact with the blood and the putrid fluids of these animals, and yet he has never experienced the least inconvenience. The numerous assistants who followed his clinique and assisted him in his operations also remained exempt from any accident.

It was the same in cases of putrefaction of the fœtus in the womb of the cow and in cases of traumatic gangrene in horses. In operations practised on these animals for remedying this serious affection M. Bouley has had his hands in constant contact with gangrenous and putrefied matter and has been covered with blood from head to foot, and yet, though he had excoriations and small wounds, never experienced a single bad symptom. Hence one must conclude that if these animals were septicæmic their blood at least was not virulent.

M. Bouley does not deny the possibility of the development of serious symptoms in consequence of the inoculation of septicæmic blood from large animals, but thinks that, as the results of the experiments made by M. Davaine are so grave, an appeal should be made to this pathologist to apply his experience to horses, in order to elucidate the various questions connected with septicæmia.

Does the virulent property of septicæmic blood exist during the lifetime of the animal, or is it merely a posthumous condition resulting from its death?

However this may be, it results from clinical observation that putrid material may remain for a long time in contact with the organism of the cow or horse without giving rise to fatal symptoms in men or in animals, on whom inoculation of the blood of these animals has been practised. Here there is a result which is opposed to the terrifying consequences of the experiments of M. Davaine.

ART. 2.—On Cutaneous Absorption.¹

By M. BRÉMOND.

(*Archives Générales de Médecine*, Août, 1872.)

"1. The cutaneous absorption of a non-volatile medicinal substance cannot be denied; it has been irrelutably established by experimentation with baths of vapor from medicated water.

"2. In ordinary cases it is not possible under a temperature of 38° C.; that is to say, it may take place at a temperature below that of the body.

"3. With the previous employment of a vapor bath, followed by soaping and energetic frictions, one may cause absorption of iodide of potassium by the skin at temperatures lower than that of the body—viz., at 34° and 36° C.

"4. With an apparatus which I use cutaneous absorption increases in direct proportion to the elevation of the temperature of the vapor bath, its duration, and the quantity of iodide of potassium it contains.

"5. With this apparatus the head of the patient is left external to the cage, and his neck is surrounded by a cloth in order to prevent the vapor from passing out, and to render absorption by the pulmonary passages very difficult. The anatomical disposition of these regions and the presence of mucus on the mucous membranes prevent the metallic molecules carried by the air or by the

¹ Communicated to the Académie des Sciences, Paris.

vapor from penetrating into the pulmonary passages. Besides, the remote occurrence of the elimination of the potash salt by the urine, which cannot be made out until at a period of two hours after the bath, proves that the absorption does not take place at the pulmonary passage.

"6. The salt is held in suspension in the watery vapor, and is carried mechanically into the wooden cage.

"7. The elimination of this salt commences about two hours after the bath, increases in quantity until the next meal, after which it seems to diminish in consequence of the quantity of water taken into the system; it afterwards becomes more abundant, and twenty-four hours afterwards completely ceases, whatever may have been the dose of the salt and temperature and duration of the bath.

"8. When the patient has taken ten or twelve baths the elimination is continued for three or four days; if he has taken between twenty-five and thirty baths it persists for ten or twelve days after each.

"9. A simple vapor bath followed by soaping and energetic frictions is very useful in hastening and favoring absorption of a non-volatile medicinal substance in a vapor bath."

ART. 3.—On the Dangers to which the Abuse of Alcoholic Drinks may give rise.

By Dr. JULES BERGERON.

(*Annales d' Hygiène Publique*, Juillet, 1872.)

1. Man is especially distinguished from the beast by his possessing a sense of his liberty of action for good as well as for evil, and consequently a sense of his responsibility.

2. Whenever man loses this double sense he declines, and falls to the rank of the beast.

3. When this decline is due to disease it is misfortune for the individual; but it becomes a disgrace when he causes it himself by the abuse of intoxicating drinks, for he thus voluntarily casts off the most noble of his attributes, that which above all others establishes his superiority—viz., his *moral conscience*.

4. Assuredly it is not this decline which is intended by the individual who takes fermented drinks; what he at first seeks in their use is a temporary pleasure and a short repair of his strength.

5. Within certain limits this use of alcoholic drinks is not reprov'd by hygiene; it may be even admitted with justice that if it be not indispensable to good health, it is still not without some utility.

6. But however moderate it may be, it is not without danger, for it is not necessary to arrive at the abuse of fermented drinks in order to find that under the influence of the alcohol which all contain the brain undergoes a certain degree of excitation, which gives to the mind more vivacity and a disposition to regard all things on their best side.

7. It is not surprising that an individual, when once he has felt this sensation, should seek to renew it. But here is precisely the peril; for this slight cerebral excitation, however harmless it may be in itself, is after all but the first degree of drunkenness, and when this has been exceeded the individual, carried along an insensible declivity, passes speedily from occasional excess to habits of drunkenness, to fall rapidly into all the physical and moral miseries which are engendered by habitual indulgence, and there he is lost.

8. Whatever be the nature of the fermented drink, it is the contained alcohol particularly which acts upon the organism. We may, then, take as the type of action of these drinks common eau-de-vie—that is to say, pure alcohol mixed with its own volume of water. When it is more diluted—as, for example, in the ordinary drinks, wine, beer, cider, or perry—its effects are evidently less marked. On the other hand, they become terrible when the alcohol is more concentrated; they then constitute mentally acute and rapidly fatal poisonings, over the consideration of which it is not necessary to linger here,

as these are but accidents occurring to more isolated individuals in the midst of the innumerable victims of fermented fluids and eau-de-vie.

9. Eau-de-vie, when introduced into the empty *stomach* even in a very moderate dose, causes congestion, excites contraction of the organ, and augments the secretion of the digestive juices. These direct effects, which are much less pronounced when the stomach is filled with food, are, moreover, slight, and disappear without leaving any trace whenever the introduction of eau-de-vie is a casual occurrence. But if this occurrence be repeated frequently, and especially if it should become habitual, the congestive redness is more intense and more persistent, and irritable inflammation is developed, the digestive juices become scanty, and are replaced by a fluid secretion which is more hurtful than useful in the process of digestion; then, at length, the inflammation is followed sometimes by ulceration, at others by thickening and induration, which by paralyzing the movements of the stomach and arresting its normal secretions, render this organ incapable of taking part in the processes of digestion. Corresponding with these anatomical conditions is a succession of bad symptoms, such as a sensation of heat or burning at the pit of the stomach, the expulsion by vomiting, in more or less abundance, of fluids which are sometimes tasteless, at others of an acid or acrid taste, loss of appetite, a sluggish digestion; at a later stage the gastric pains extend to the region of the ribs at the back, and differ much in intensity and nature, from a slight stitch or a sensation of weight to the most intense tearing sensations; in short, there are digestive disturbances of increasing gravity, and capable in themselves of causing death by exhaustion, with or without an alternate complication of pulmonary phthisis or cancer.

10. The immediate effects of alcohol on the stomach by no means exhaust its action; the greater part of the fluid is absorbed by the veins, and is carried by the circulation to exert a serious influence upon the whole organism, and especially on the brain, the liver, the lungs, and the kidneys.

11. The brain of all the organs is, as every drinker knows, the one which feels most severely the action of alcohol. Experiments on living animals have, moreover, demonstrated that the nervous tissue is that of all others which retains and stores up the largest proportion of alcohol.

12. Alcohol, when brought into contact with the cerebral structure by the small bloodvessels, excites the functions of the brain, and this excitation, the degree of which bears a relation to the proportion of alcohol absorbed, manifests itself in passing through all the stages of drunkenness, at first by a joyous condition, which is nearly always one of good temper, to which soon succeeds incipient babbling, with a morbid tendency to move in the same circle of ideas; the gait, which at first was very alert, and the pace of which seemed to defy all fatigue, then becomes less steady; the state of gayety is then followed by a certain degree of irritability, which almost always accompanies an irresistible disturbance of the head. From this moment the aspect of the scene is completely changed; there is not only excitation, but a perversion of ideas, a veritable delirium more or less quarrelsome, more or less violent, which sometimes verges on incoherent verbiage, and a condition of extreme agitation, and at others degenerates into a crisis of blind fury, in which the individual becomes capable of any crime, the horrible eventualities of which he usually avoids because, exhausted by the very excess of the excitation to which he is a prey, he falls into a state of prostration and becomes an inert mass—a man *dead drunk*.

13. When excesses of this kind are repeated with short intervals they inevitably result in an attack of acute alcoholism, well known by the name of *delirium tremens*, a special delirium of drinkers, which by itself may cause death. But when the action of alcohol, even without passing beyond the first stage of slight excitation, is repeated daily, the slight disturbance of the nervous tissue produced at first by this excitation is gradually succeeded by material lesions from diffuse to more or less generalized and more or less persistent congestion of the brain to softening. And then it is not by a joyous effervescence nor by attacks of fury that these disorders are revealed, but by persistent pains in the head, by vertigo, at a later period by hallucinations, by

gradual weakening of the intellectual and moral faculties, by diminished mental activity, by loss of memory, by embarrassment of speech, by incessant trembling of the limbs, by temporary attacks of delirium—sometimes calm, at others agitated—and frequently alternating with attacks of epilepsy, especially if the drinker has habitually indulged in absinthe; finally, by lunacy, imbecility, and paralysis, which have often been long preceded by sterility, or absolute loss of power. There are drinkers who, before declining to this last degree of brutality, are kept by the repeated use of alcohol in a permanent state of excitement, the first effect of which is to render them really irritable and quarrelsome, and who at last gradually lose all sense of duty, and, overcome by the detestable passions which the abuse of alcohol has roused in them, ruin or dishonor their families by disorders or crimes for which they are convicted and punished.

14. Alcohol acts on the *liver* as on the brain, by causing congestion; this congestion, as slight as that of the nervous tissues when the action of the alcohol has been quite casual, is often succeeded, when the consumption of alcoholic drinks has become copious and continuous, by veritable inflammation, leading in some instances to suppuration, as has been observed, especially in hot countries; in other instances, and this most usually occurs, to an increase in the size of the organ with or without induration, sometimes finally to degeneration, either fatty or fibrous (cirrhosis) of the normal tissue. To the drinker all these disorders are announced by digestive disturbances very analogous to those caused by the direct action of alcohol on the stomach. They are usually less painful, it is true, but are complicated by jaundice and dropsy, and aggravated in the last stages by all the agonies which precede death, when the heart and lungs have been compressed by the dropsical fluid collected in the abdomen.

15. The surface of the *bronchi* is probably the most extensive seat of the elimination of alcohol; every one knows how much the breath of drinkers is impregnated with the spirit; but, though it is readily expelled by the *lungs*, alcohol, whilst passing through organs so vascular as these, causes their congestion, and induces an extreme tendency in them to become inflamed when, in consequence of repeated excesses, they are frequently submitted to its action. Thus may be explained the dry, tearing, and obstinate cough of most drinkers, and the frequent occurrence among them of fluxion of the chest and of acute or chronic bronchitis, with or without consecutive phthisis, but almost always complicated with disease of the heart.

16. It is important not to forget that diseases of the heart—so painful in all their stages in consequence of the oppression which they cause and which always terminate either in sudden death or in general dropsy—may be suddenly produced under the influence of alcoholic excesses, the internal membranes of the heart and the vessels being no less exposed than other tissues to the irritant action of alcohol.

17. In traversing the kidneys, which reject it rapidly, and to a great extent decomposed with the urine, alcohol excites the functions of these organs; it is a well-known fact that an alcoholic drink causes more urine to flow than an equal quantity of pure water. If this irritation be repeated frequently the tissue of the kidneys, like that of the brain, the liver and the lungs, becomes congested and inflamed, and at the same time pain is felt in the region of the kidneys and pus and blood are passed in the urine. These symptoms are often complicated with those of catarrh of the bladder and of inflammation of the prostate, affections which, in consequence of the retention and incontinence of urine and of the series of necessary painful operations, cause the life of the unfortunate being condemned to all these miseries in consequence of alcoholic excesses to be a frightful punishment, which is often abridged by *suicide*.

18. In addition to these numerous affections, there are still others, less formidable, generally speaking, but yet serious on account of some of their remote consequences, and these one ought also to attribute to the action of alcohol. In one drinker this action is manifested by the frequent appearance of *furuncles* or even of *anthrax*; in another by simple eruptions of pustules disseminated over the body (acne, ecthyma), by persistent redness of the face, by more or

less rebellious forms of darts (eczema, lichen); and in a third drinker by a tendency to the production of an excess of lithic acid (red and brick-dust urine), the accumulation of which almost certainly causes *gout* and *gravel*, and is often followed by *stone*.

19. Thus the abuse of alcoholic drinks engenders many maladies; but before it has even produced all these material disorders and disturbances of health, it has already had the effect of rendering the consumers of these drinks more accessible to the action of causes which give rise to casual affections, of aggravating these affections, and of compromising in a most serious manner the cicatrization of wounds and the successful results of operations which may have been performed on drinkers.

A. Internal Maladies.—Epidemic diseases, such as *variola*, *typhoid fever*, *dysentery*, and *cholera*, rage by preference amongst drunkards. With cholera in particular all statistics show that the number of admissions into hospitals has always attained its maximum on Tuesday and Wednesday—that is to say, on the two days which follow that of excessive libation.

In drunkards all acute maladies have a remarkable tendency to become complicated by delirium, which is always agitated, often very furious, and which by its violence places the patient in danger of death, and in all cases renders recovery more difficult and convalescence more prolonged. Fluxion of the chest is undoubtedly the affection which in drinkers is the most frequently aggravated by this delirium. With regard to other acute maladies, it is certain that this course is disturbed by the condition of congestion caused in all tissues by the penetration of alcohol; it will suffice to mention, in support of this assertion, the slow progress of acute catarrh of the bronchi and of the intestines in drinkers. In chronic maladies, the development of which is not due to the direct action of alcohol, its influence is less easy to establish; but it is well known how rebellious are chronic catarrh of the bronchi and darts affections in drunkards.

B. Surgical Maladies—Accidental or operative traumas.—It is made out daily by surgeons that drunkenness is the immediate cause of a great number of bad symptoms, and that alcoholism exercises the most serious influence on the progress of wounds.

Whether intoxicated or merely excited by alcohol, the most gentle and sensible man becomes for the time quarrelsome and a swaggerer—hence bloody contests or perilous tricks. The same cause singularly augments the dangers inherent to certain professions, which may be avoided or overcome without trouble by skill and coolness, but which cause the man rendered imprudent, weak, or clumsy by drink to become a victim.

Drunkenness is to the surgeon a source of numerous embarrassments, which sometimes render the diagnosis troublesome and the treatment difficult or inefficacious. It may interdict the opportune employment of a useful plan of treatment, may necessitate the postponement of an urgent operation or the use of violence, and may force the practitioner to treat his patient as a veterinary doctor does the brute.

In veterate alcoholic poisoning has consequences which are still more formidable: a small wound, without danger in a sober and healthy man, often in a drinker becomes the starting point of terrible symptoms which art is powerless to remove.

Agitated by fever, tormented by thirst, and having an insurmountable dislike for nourishment, the wounded drinker refuses or rejects reparative aliments, which are so useful in the treatment of injuries, and soon presents symptoms of intestinal embarrassment and the consequences of a forced diet. The antecedent bad state of the principal organs, as the liver, kidneys, and lungs, is still more aggravated, and favors the development of internal complications. The reparation of the mischief caused by the wound requires pure blood and the regular concurrence of all the nutritive functions; with altered blood, and a profound disturbance of the functions cicatrization is rendered difficult or impossible. Thus one may observe numerous complications at the seat of the wound. The sores take on a bad appearance, they become painful and inflamed, and are covered by putrefied debris or pus of a bad kind. Phlegmon,

erysipelas, and gangrene may manifest themselves, and the already altered blood takes up terrible poisons, which soon complete the work of destruction.

20. Finally, not only does the drinker ruin his health, but he also compromises in advance that of his descendants. In many *scrofulous* and *phthisical* patients the malady which affects them has for its original cause alcoholic excesses on the part of the parents.

21. It will not suffice to make known all the evils produced by the abuse of alcohol; it is further necessary to indicate the circumstances which, in the use of fermented drinks and of eau-de-vie, are the most concerned in favoring the production of those evils.

22. In the first place, that there is one fact which ought to be loudly proclaimed and not be forgotten, for if every one has been made aware of it, everyone seems to have forgotten it; this fact is, *that every alcoholic drink—wine, beer, cider, eau-de-vie, or liqueur—when it has been taken between meals, acts much more rapidly and with much more energy upon the organs, especially upon the brain and stomach, than when it has been mixed with food.* The immense majority of cases of acute or chronic alcoholism is due to the unhappy custom which at the present day has so many followers in all classes, and which consists in using, either in the morning or before the evening meal, wine, or pure alcoholic drinks, as eau-de-vie or liqueurs. It is to this pernicious custom, and to its rapid progress during the past twenty years, that one must attribute, in part, the physical and moral debasement from the sad effects of which France so seriously suffers.

23. From its composition (*water, sugar, alcohol, ether, tannin, and salts*) wine, when diluted with two-thirds of water, forms the best drink to be taken during a meal. A man engaged in manual work, necessitating sustained efforts can, without inconvenience, consume a litre of wine daily. Beyond these conditions of labor from forty to fifty centilitres will suffice. But when pure wine is taken between meals or early in the morning, it may, by itself, give rise to all the symptoms of chronic alcoholism.

24. The greater part of the beer and cider generally consumed contains such a diminutive proportion of alcohol that these drinks can hardly give rise to symptoms of acute or chronic alcoholism. On the other hand, as they respond through the principles which they contain (*water, alcohol, sugar, bitter principles, salts*) to the various wants which require to be satisfied at a meal, it may be said that they present the qualities of a good drink, but one, however, which is inferior to wine which produces the same useful effects in smaller quantity, without even distending the stomach and engorging the venous system with fluid.

A pint of beer or of ordinary cider at a meal is sufficient for a laborer. Without profit, then, to their health do the rustics and laborers in the north and northeast provinces of France swallow at their meals enormous quantities of beer and cider. But to the great detriment of health there has been established a custom in these provinces, among both women and men, of adding to their ordinary beverages, or of drinking, without mixture, considerable quantities of eau-de-vie, with the sole object of obtaining from this liquor a cerebral excitement which beer and cider have no power to produce.

25. It is, indeed, in the form of eau-de-vie or of liqueur that alcohol produces the greatest ravages in populations. Formerly the laborer, in country and in towns, drank in the early morning, under the pretext of neutralizing the effects of the moist and damp, nothing more than a glass of pure wine, which was more frequently white than red, purely because white wine excites the brain with greater rapidity. In this custom there was a serious danger, but after a time, white wine no longer sufficed, and it was (owing chiefly to the low price of alcohol) replaced, in towns at least, by a liqueur which caused the wished-for excitation more speedily, and in a higher degree. At the present day, even this liqueur, which, in consequence of the essential oil and of the sugar which it contains, gratified the palates of the drinkers more than common eau-de-vie, has become too insipid, and now most laborers consume in the morning on empty stomachs—that is to say, under conditions most favorable to the absorption of alcohol—a pernicious beverage which is called *le mêlé*,

which consists of oil of aniseed, or of liqueur of mint, added to a large proportion of alcohol.

26. The use of this mixture is quite sufficient to produce chronic alcoholism; but the use of *liqueur d'absinthe*, which of late years has spread so rapidly from the army to the civil population, is still more pernicious, not only because it contains a higher proportion of alcohol than other liquors, and it is always taken before a meal, but especially on account of the special property which the extract of absinthe possesses of causing attacks of epilepsy.

ART. 4.—*On the Morbid Effects of Alcohol as shown in Persons who Trade in Liquor.*¹

By W. H. DICKENSON, M.D. Cantab., F.R.C.P., Senior Assistant Physician and Lecturer on Pathology, St. George's Hospital.

(*The Lancet*, November 2.)

The paper is a contribution to the morbid anatomy of alcoholism, founded upon a comparison of post-mortem appearances between persons trading in liquor and persons occupied independently of it and not known to have been drunken. The assumption that people who get liquor for nothing drink more than those who have to pay for it, is, the author said, justified by the common tendency of mankind, as well as by the notorious inebriety and liability to delirium tremens of potmen, waiters, cellarmen, draymen, brewers, barmen, and publicans—the chief members of the liquor-trading class. The paper is based upon an analysis of the post-mortem and case books of St. George's Hospital for a period of thirty years. This comprised the particulars of the examination of the bodies of 149 traders in liquor. For comparison there were taken from the same source the same number of examinations of persons otherwise and very variously employed, chosen by rule, so as to afford a fair standard. The full details were tabulated and laid before the society. Tabular abstracts, representing the condition of each organ in the two classes, were incorporated in the paper, the general conclusions of which were thus summed up:—

“Alcohol causes fatty infiltration and fibroid encroachment; it engenders tubercle, encourages suppuration, and retards healing; it produces untimely atheroma, invites hemorrhage, and anticipates age. The most constant fatty change, replacement by oil of the material of epithelial cells, and muscular fibres, though probably nearly universal, is most noticeable in the liver, the heart, and the kidney. The fibroid increase occurs about the vascular channels and superficial investments of the viscera, where it causes atrophy, cirrhosis, and granulation. Of this change the liver has the largest share; the lungs are often similarly but less simply affected, the change being variously complicated with, or stimulative of, tubercle; the kidneys suffer in a more remote degree. Alcohol also causes vascular deteriorations which are akin both to the fatty and the fibroid. Besides tangible atheroma there are minute changes in the arterial walls, which show themselves by cardiac hypertrophy and cerebral hemorrhage. Drink causes tuberculosis, which is evident not only in the lung, but in every amenable organ. Drink promotes the suppurative at the expense of the adhesive process, as seen in the results of pneumonia, of serous inflammations, and of accidental injuries. Descending from general conditions to the individual organs, the effect of alcohol upon the nervous system must be looked upon as special, and taken by itself, apart from changes which, like delirium tremens, are more evident during life than after death, the brain pays a large reckoning in the shape of inflammation, atrophy, and hemorrhage. With regard to the other organs, they are damaged by alcohol much as they stand in in its line of absorption. Next to the stomach, the liver suffers, by way of cirrhosis and fatty impregnation. Next the stress falls upon the lung, taking every shape of phthisis. A large share in the pathology of intemperance is also taken by the arterial system, as seen in its results—atheroma, cardiac hy-

¹ Read at a meeting of the Royal Medical and Chirurgical Society, October 22.

pertrophy, and hemorrhage. Lastly, the kidneys, more remotely exposed, have a smaller participation in the common damage of alcoholism. They undergo congestive enlargement, fatty and fibroid change, but they do not suffer commensurately with the bloodvessels, or as frequently as the other viscera.

"So far we have seen only the evil which alcohol produces. It may be asked, Is there none which it obviates? Apart from its medicinal action, which the evidence before us does not touch, has it no *per contra* of prevention? It is not easy to answer this inquiry. Some active inflammations, such as pneumonia and endocarditis, are diminished in the alcoholic trades; but it must at once be seen that the increase of the alcoholic disorders must necessarily cause an apparent diminution in all which are unaffected by this agent. A man may be saved from pneumonia or acute rheumatism, not because alcohol is antagonistic, but because it kills him prematurely in another way. He can die but once. Therefore, though under alcohol some forms of disease are comparatively infrequent, we must use much caution in concluding that it has a directly preventive influence. Nevertheless it may be laid down as an axiom that any drug which can do harm can do good. Disease is most various, and may, or rather *must*, represent contrary conditions. It may be positive or negative, plus or minus. Too much or too little of any of the shapes of heat, food, and work may spoil the equipoise of health. If a drug promotes one change it may prevent its opposite. Alcohol certainly gives an asthenic type to disease. Although we cannot as yet say that it defibrinates, yet it retards adhesive and plastic processes. This influence may be beneficent if it hinders the development of acute inflammation and obviates the formation of coagula where, as in acute rheumatism, the process is harmful. It is possible that by some such antagonism we may explain the remarkable paucity of endocarditis in the alcoholic series. But, at the best, the protecting is less certain and less effective than the deteriorating influence. In brief and final enumeration, alcohol replaces more actively vital materials by fat and fibrinous tissue; it substitutes suppuration for new growth; it promotes caseous and earthy change; it helps time to produce the effects of age; and in a word, is the genius of degeneration."

ART. 5.—*On the Pathology of the Lesions produced by Emboli.*

By Dr. R. LÉPINE.

(*Gazette Médicale de Paris*, No. 23, 1872.)

Complete and final as the clinical history of embolism seems to be, and although at the present day it is supported by a considerable number of carefully observed facts, still the pathological physiology of the lesions produced by an embolus are not free from obscurity. Why, for example, does it produce in some instances gangrene, in others hemorrhagic infarctions, and in others again abscesses? Virchow, it is true, has insisted upon special qualities which may belong to certain coagula, and which may be found in the foci from which these coagula are formed. In this way he explains the development of pulmonary abscesses or gangrene, following gangrenous or septic lesions in different regions of the body. The clot formed in the veins of one of these regions when it has reached the ramifications of the pulmonary artery at once sets up disorders differing in their nature from those excited by a small piece of elder-pith or of caoutchouc; instead of simple circulatory disturbances there is a special inflammation which controls the pathological processes.

But Virchow's explanation is evidently insufficient, as it does not account for the predilection of this or that kind of lesion for certain organs. In the limbs the almost constant result of embolism is simple gangrene; in the spleen and lungs, in addition to abscesses, one almost always finds hemorrhagic infarctions, which again are never found in muscles and glands, although the existence of embolic abscesses in these organs proves clearly that they are not exempt from emboli.

Professor Cohnheim, whose important memoir on inflammation has contributed so much to reform views previously held with regard to the formation

of pus, has endeavored to solve the problem just stated, and to determine the conditions which preside over the development of this or that lesion.

In this, as in preceding researches, Professor Cohnheim has turned to experimentation and direct observation. In order to follow, step by step, the effects of embolism the structure chosen was the frog's tongue laid out under the microscope. The first result of the plugging of a lingual arteriole with a minute piece of wax was acceleration of the circulation in collateral vessels; the current of blood, finding the passage closed, passed into the channels which remained free; the rapidity of the current was increased, not only in the collateral arteries, but also in the continuous capillary vessels and vesicles. Above and below the obstacle the blood remained at rest, as well as in the capillaries and veins (as far as the collateral branches) belonging to the obliterated artery.

But if between the plug of wax and the capillary vessels there should exist an arterial anastomosis, however small, this soon dilates, and in a short time afterwards the circulation is re-established in all the capillaries. The course of the blood is diverted, an arterial trunk is suppressed, in consequence of the obstacle, but no bad consequences ensue.

If there be no anastomosis, and if the obliterated artery be a *terminal* one (Professor Cohnheim proposes this designation for the sake of abbreviation), one may observe in the contents of the vein a rythmical forward and backward movement, commencing at the point of insertion of the first collateral vessel; this movement is propagated along the capillaries and the artery as far as the seat of obliteration. In the course of a few hours this vascular region presents a condition of engorgement visible even to the naked eye.

The explanation of this is simple: below the plug the pressure is at zero; in the vein corresponding to the collateral vessels it is, on the contrary, positive, although feeble. Then there is a tendency for the venous blood to flow into the inferior portion of the artery, in order to restore the equilibrium of pressure. Well-formed valves would prevent this movement, but in the lingual veins of the frog these organs are too slight to be capable of opposing the reflux of blood.

To this state of engorgement there is added on the third or fourth day small extravasations of red blood-corpuscles, which are deposited here and there around the capillaries. It is impossible to explain these by the view of excessive pressure; moreover, there occurs an extravasation of blood-corpuscles without any issue of the blood-plasma, which would certainly be effused before the corpuscles in case of augmented pressure. Professor Cohnheim thinks that the defect in irrigation by the arterial blood has an unfavorable influence on the properties of the walls of the capillary vessels, which become incapable of returning the blood, even when they seem to be morphologically intact.

For the purpose of confirming this view Professor Cohnheim made the following experiment: he ligatured the frog's tongue in such a manner as to prevent altogether any circulation in this organ; at the end of a certain period he removed the ligature.

In instances where the ligature had been allowed to remain for only a few hours the current of blood became perfectly re-established. When the ligature had remained for more than forty-eight hours, together with the re-establishment of the circulation (besides the issue of numerous corpuscles from the veins) there was a diapedesis of red corpuscles from the capillaries. The capillaries of the lungs and intestines develop changes at an earlier period. These give rise to hemorrhages when they have been deprived of the circulation for thirty-six hours. For the capillaries of the external ear of the rabbit less than twenty-four hours suffices. Finally, if in the rabbit the ligature be allowed to remain for only six hours, hemorrhagic infarction of the testicle occurs shortly after the removal of the ligature. A similar lesion may be produced in the ear of the guinea-pig by allowing the ligature to remain for two hours.

ART. 6.—*On Fluid Effusions of the Pleura.*

By Dr. C. MÉHU.

(Archives Générales de Médecine, Juillet, 1872.)

In pleuritic effusions the quantity of mineral salts is almost constant, and always independent of the richness of each fluid in albuminous material. This rule applies to all the serous fluids of the economy (hydrocele, ascites, hydrarthrosis, hygroma, ovarian cyst). Each kilogramme of fluid contains from seven and a half to nine grammes of anhydrous mineral salts.

Fibrine is present more particularly in acute pleurisy (mean quantity equals 0.423 gramme); but it also exists in cases in which the thoracic effusion is the result of obstructed circulation in the heart or in the large vessels, where, however, it is in small proportion (mean equals 0.149 gr.).

Fibrine is absent in purulent fluids and in the effusions excited by the presence of heterologous products (tubercle, cancer).

If the weight of the dry residue does not attain to 50 grammes for each kilogramme of fluid, it may be concluded that there was an obstruction to the circulation of the blood in the heart and large vessels, and that the effusion was due to this obstruction (cardiac affections, cirrhosis).

If the weight of the dry residue left on evaporation exceeds 50 grammes (mean equalling 65 grammes, the lowest quantity 58 grammes), and if the fluid after operation becomes a more or less consistent mass, it may be concluded that the case is one of acute pleurisy. The higher the proportion of fibrine the more rapidly does the patient recover; a single puncture is generally followed by a cure.

When, on account of the condition of the patient, several successive punctures are required, the proportion of fibrine goes on increasing if the disease should tend towards cure. On the other hand, the fibrine becomes reduced very much in quantity, or is altogether absent when the disease has a tendency to increase in severity.

Practically, by the bedside, it may be concluded that every pleural fluid which has a specific gravity above 1.018 at a temperature of 15° C., and which gradually becomes a more or less consistent mass, is due to a free acute pleurisy, which will be the more rapidly cured as the coagulum is more dense.

Every pleural fluid which has a specific gravity below 1.015 at a temperature of 15° C. indicates that the effusion is dependent on an obstruction to the circulation of blood in the heart or in the large vessels. The case is then one of hydrothorax. The prognosis depends here on the primary lesion, which is usually more serious than the effusion itself.

Every pleural fluid which, with a specific gravity 1.018, contains no fibrine, indicates a lesion of the pleura due to the presence of an heterologous product (cuticle, cancer), the lesion in most cases being very serious; the presence of a fluid of this kind renders the prognosis very unfavorable.

ART. 7.—*On Hydatid Cysts of the Anterior Wall of the Abdomen.*

By Dr. MOUTET.

(Montpellier Médical, 1871; Gazette Hebdomadaire, No. 18, 1872.)

M. Moutet has described, under the name of hydatid cyst of the anterior abdominal wall, one of the varieties of encysted hydropsy; he separates the cysts which, arising in the peritoneal cavity from the interior of a viscus, finally project externally, and elevate a portion of the abdominal wall; and he reserves the name preperitoneal hydatid cysts for those growths which, originating in front of the parietal layer of the peritoneum, do not coexist with other tumors of the same nature developed at other parts of the subjacent cavity.

The author has collected eight cases of this kind of cyst, seven from the

practice of Boudet, Roux, Leidy, Degner, Courty, Anhorn, and Decieux, and a remarkable one which came under his own observation. From these data he has been able to form a clinical exposition, of which the following are the most interesting parts:—

The favorite seat of hydatid cysts is the umbilical region and the surrounding parts. The original seat of their growth cannot always be readily determined; still it is probable that two varieties in this respect may be admitted, one in which the cyst is developed in muscles, the other in which the initial seat of the new growth is in the cellular tissue. The cysts are usually isolated, and are rarely multilocular; they undergo an enormous development. The number of vesicles in their interior may amount to thousands, and the quantity of fluid to several litres—in some cases to twelve or fifteen. These hydatids enter into the category of those that are destitute of echinococci. With regard to the chemical composition of the contained fluid, M. Moutet has made out that there is a slight proportion of albumen (2 parts in 100).

The symptomology has been studied very elaborately; it is briefly summed up by M. Moutet in the following table:—

“A tumor making its appearance in the anterior abdominal region without having been announced by any general cause, or any pulmonary local modification. Its growth is attended with lingering pains, which either affect a circumscribed portion of the abdomen, or occupy the whole of its surface. At first it is more or less irregular on the surface, but afterwards becomes regularly rounded and produces extreme distension of the skin, yet without causing any œdema in the cellular tissue or any varicose dilatation of the subcutaneous veins. It is elastic, and its limits can be more or less readily made out by palpation. On percussion it gives a dull sound, the seat of which undergoes no modification with changes of position. The tumor is a fluctuating one, and transmits to the finger a peculiar quaking sensation. The affection does not give rise to any marked respiratory or digestive disturbances, but causes general malaise; neither the appetite nor the urinary secretion is interfered with, and no arrest is caused of the venous circulation except at an advanced stage. The tumor generally coexists with all the appearances of good health; it is very slow in its growth and resists the action of all resolvent agents. Such is the collection of characters with the aid of which one may expect to be able to recognize this affection with certainty.

“Of all these signs one only has a special value; this is the hydatid *frémissement*; its absence, however, is very frequent. It should be added that though the presence of this symptom may render clear the nature of certain abdominal tumors, it has no value in the determination of their exact seat. From this point of view it would become the source of veritable confusion, seeing that intra-abdominal cysts may also contain vesicles; consequently it often becomes necessary to have recourse to a more expressly demonstrative proof. Sometimes one may be able to examine directly the contents, as after rupture, or by practising an exploratory puncture. But the latter may be followed by serious symptoms, and ought not to be heedlessly attempted. The diagnosis presents numerous difficulties; it is only after a very serious examination that one can differentiate these abdominal cysts with fluid collections, especially cysts of the ovary and ascites and intra-abdominal hydatid cysts. It is chiefly in vaginal and rectal examination that one will find the most positive differential signs.

“The treatment of this affection is necessarily surgical; in three out of four cases incision of the cyst gave very favorable results. Simple puncture is quite insufficient. M. Moutet is in favor of incision of the sac with a bistoury, complete evacuation of the contents, washing out of the cyst with detersive or disinfectant solutions, and at a later period injections containing iodine.”

ART. 8.—On Wide Daily Range of Temperature in connection with Vegetations on the Mitral Valves (Rheumatic Disease) and Separation of the Spleen.

By JAMES ANDREW, M.D., F.R.C.P., Physician to St. Bartholomew's Hospital.

(*The Lancet*, June 22d.)

At a Meeting of the Clinical Society of London on May 24th Dr. Andrew read a paper "On wide Daily Range of Temperature in connection with Vegetations on the Mitral Valves (rheumatic disease) and Separation of the Spleen." Wm. Henry C—, aged sixteen, was admitted into Victoria-park Hospital, under the care of Dr. Andrew, on October 27th, and died on December 6th, 1871. He had had a severe attack of rheumatic fever two years previously, and had never been well since; he had a slighter attack three weeks ago. On admission he had still pains in the hips; was very pale and thin; pulse 120; tongue coated. His appetite was bad, and he was thirsty. The bowels were confined. He had a slight hacking cough. The dyspnoea was generally worse at night. The urine was of specific gravity 1020, containing a trace of albumen, which was never again found. The lungs were normal. The heart was greatly hypertrophied. A blowing systolic murmur, loudest at the apex and towards the axilla, was also heard posteriorly. The liver was slightly, the spleen greatly, enlarged. For the first ten days after admission the evening temperature ranged from 103° to 105°, the morning temperature from 98° to 100°. He had a slight attack of tonsillitis, and for two days the temperature remained at 103–104°. After this the daily variation returned and gradually diminished, the minimum rising and the maximum falling; on the whole, however, the mean temperature was somewhat increased. On December 1st the temperature began to fall, rising again for a few hours on the 4th. On the 6th, an hour or two before death, it was only 94°. At the post-mortem examination nothing was found except the disease of the heart and of the spleen, with one or two small fibrinous wedges on the kidneys also. The spleen grew larger for some time after admission, the gradual diminution in the daily variation of temperature coinciding with the subsequent gradual decrease in its size. The microscopical examination of the blood showed no increase of white corpuscles, but a pale, shrivelled state of the red disks. The prominent features of the case were dyspnoea, without any physical evidence of pulmonary or pleural change, the extreme anæmia and muscular weakness, the constant drowsiness, and the absence of rigors and of any form of delirium. He seemed to die at last from cold.

ART. 9.—On the Etiology of Tuberculosis.

By Dr. DAMASCHINO.

(*Thèse de Paris*, 1872; *Archives Générales de Médecine*, Octobre, 1872.)

The author studies in the first place the somatic or internal causes, and then the external causes; he next examines the question in its experimental aspects; and finally investigates the relations of tuberculosis with other morbid conditions—relations of affinity, relations of antagonism.

Age affords no immunity; neither of the two extremes of age is free from tuberculosis. Age has no value save the mark it impresses on the course of the symptoms. It is in youth particularly that one sees those acute generalized tuberculizations with rapid course, which cause the death of the patient before the granulations have undergone any kind of degeneration. Adult and old age are more exposed to chronic consumption. No very great influence results from sex. Still, from very extensive tables, it appears that women are more frequently affected than men. The author agrees with M. Peter that

the uterus goes for nothing in the etiology of tuberculosis, but that all depends on the social conditions of the woman.

From the contradictory opinions which have been given concerning the influence of pregnancy, the author concludes that there is nothing to justify the view of a special action of pregnancy on tuberculosis. Gestation, he says, constitutes only a cause of debility of the organism. From the results of clinical observation and comparative pathology, he attributes an analogous influence to lactation.

Passing to the external causes, the author insists on the influence of confined air and of cold and dampness. In cities which have been rendered dry by means of drainage, the mortality of the inhabitants from phthisis has been reduced by one-half. He points out the great influence of poverty; on this point the tables of Marc d'Espine are very significant; out of 1000 deaths among paupers, 232 were due to phthisis; out of 1000 deaths among well-to-do people the number of deaths from phthisis were 63. According to M. Bertillon this disease affects 13 per cent. of rich people, and 33 per cent. of poor people. The author points out the truth of the following words of M. Pidoux: "The specific remedy of tuberculosis will be found, not in vaccination, but in the physical and moral amelioration of the masses." In considering alimentation, the author raises an important question: Is a person who makes use of milk supplied by a tuberculous cow, and is a child suckled by a phthisical nurse, exposed to the danger of contracting the disease? If the condition of clinical science does not yet justify one in giving an affirmative answer to this question, the experiments of M. Chauveau on the injection of tubercles causing tuberculous formation, will equally forbid a negative response. M. Damaschino has arrived at no certain conclusions on this point, but states that it is one of the highest interest with regard to hygiene and public alimentation.

No kind of climate seems to be free from tuberculosis; the influence which seems to be the most important is that of altitude. But a cause which the author regards as superior to climate and cosmic influence, is the degree of dissemination or condensation of a population on a given space; prevalence of phthisis bears a direct proportion to the number of cities. Nomadic peoples seem to be free from the disease.

The most novel and important point in the etiology of tuberculosis is probably contagion. Dr. Damaschino, who is a contagionist, mentions several facts which, though not unquestionable, are still of great value. According to Rush, of Philadelphia, phthisis, which is now well acclimatized in America, was first imported from Europe. Dr. Livingstone has stated that the negroes of the interior of Africa do not suffer from phthisis in their own country, where the disease affects white people only. M. Damaschino does not fail to give the arguments of the opponents of contagion. It has been asked, how could the human race have resisted phthisis if this disease had been communicable? to which M. Villemin answered, that all horses do not suffer from glanders. It has been stated that the incubation of phthisis would take a long time; the fact is that, excluding hydrophobia, we know of very few diseases the incubation of which lasts long. By the term inheritance has been explained the disappearance, through phthisis, of those groups of families which might have been regarded as victims of contagion; it is as difficult to explain the occurrence by the one as by the other view. Still, as Dr. Damaschino holds, all the negative facts are insufficient to destroy a single well-proved positive fact. Contagion being proved, what is the agent? It is supposed to be the tuberculous matter itself—the expectorated matter, the breath of phthisical patients; finally, there is a mode of contagion from the husband to the wife through the fœtus, this is what M. Gubler regards as a kind of slow inoculation.

Finally, after having treated of contagion, the author arrives at the important subject of inoculation. We will not enter here into the recital and analysis of those facts which are now generally known; not only do both inoculations of tuberculous granulations, cheesy material, and tuberculous expectorated matter give rise to the development of tubercles, but also inoculations of pus, of cancerous material, and of various other agents. The success

attending injections made with different substances, and which yet almost always gave rise to tuberculosis, destroyed the theory of specificity. The single element which was common to all these experiments, viz., traumatism, will explain all. The intestinal canal, which acts without traumatism, and physiologically by absorption, had already served to produce a vaccinal eruption in a foal into which M. Chauveau introduced nine centimetres of vaccinal virus, diluted in a quarter of a litre of water. This skilful experimentalist tried a similar proceeding with thirty grammes of tuberculous material, which he made a healthy cow swallow. The cow became tuberculous.

When, on the other hand, M. Chauveau made use of the same means with different phlogogenous substances, and with pus, he did not succeed in exciting tuberculous processes. Finally, when M. Chauveau injected tubercle and pus, not in masses, but in filtered solutions, tubercle alone produced tubercle. Once, by injecting under the skin a few drops of very irritant pus, this physiologist succeeded in producing some curious nodules in the lungs. The material extracted from these nodules was inoculated on a calf, and at the same time the animal was inoculated with tuberculous material. The first inoculation gave rise only to an inflammatory swelling; the second to a persistent tuberculous deposit. Thus, says M. Damaschino, tubercle consists in a special entity; it seems to possess a specific virulent agent, like the viri of variola, glanders, and syphilis, and may be inoculated in all forms, in the condition of miliary granulations, as variolous material, in the blood and expectoration.

With regard to the affinity of scrofula and tuberculosis, the author looks upon tuberculosis as the natural manifestation of the scrofulous temperament. The relations of tuberculosis to the hepatic diathesis are much less intimate, according to his views. Gout and rheumatism are not antagonistic to tuberculosis, but the coincidence of these affections is very rare.

Maladies of the digestive organs act by causing debility of the organism, and so preparing it for the development of phthisis. Diabetis and mental alienation act in the same way.

The eruptive fevers often precede tuberculosis; rubeola ought to be placed in the first rank and scarlatina in the second; whooping-cough takes at least the same place as rubeola. Willis has called it "*vestibulum tabies*." There is very little antagonism between typhoid fever and intermittent fever on the one hand, and tuberculosis on the other. These assertions, however, do not seem to be supported by unquestionable proofs.

ART. 10.—*The Individuality of the Sympathetic Nerve.*

By Professor SCHIFF and S. LILIENTHAL, M.D., of New York.

(*New England Medical Gazette*, July.)

From a translation of Professor Schiff's paper on "*The Individuality of the Sympathetic Nerve*," by Dr. Lilienthal, of New York, it is proven that the division of the medulla oblongata produces the same manifestations as the division of the cervical part of the sympathetic, and that therefore the medulla oblongata is the original point of these manifestations. He also tries to prove by experiments, that the origin of the vaso-motoric activity ascribed to the sympathetic, may be continued into the cerebro-spinal central system. He positively denies the influence of the sympathetic on the cardiac muscles, and asserts that the peristaltic motions of the bowels are modified by the spinal cord, according to the mode of irritation, when the dorsal portion of it is irritated. The influence ceases after division of the splanchnic nerve. Schiff considers nutrition a chemical process, in which the influence of the nerves is indirect, and limited to the activity of the bloodvessels. Secretion takes place in many glands under the influence of spinal nerves; in other glands secretion is stopped under the influence of the sympathetic. In such a case the nerve fibres producing a contraction of the bloodvessels emanate from the sympathetic nerve; those acting in dilatation of bloodvessels, from the central nervous apparatus. As both originate in the medulla oblongata, it may be

taken for granted that here also the sympathetic acts only as a conductor of the function exercised by the medulla oblongata. After showing that trophical processes are also under the influence of the animal nervous system, he produces cases where the vegetative nerve, the sympathetic, exercises the functions of the animal nervous system.

ART. 11.—On Cerebro-cardiac Neuropathy.¹

By M. KRISHABER.

(*Gazette Médicale de Paris*, No. 21, 1872.)

"I have collected a great number of cases of a hitherto undescribed nervous malady which affects an invariable type. This malady is characterized by four groups of constant symptoms; these are: 1. Sensory disturbances; 2. Disturbances of locomotion; 3. Disturbances of the circulation; 4. Secondary disturbances.

"To the sensory disturbances belong false or perverted conceptions, which may induce a condition very much resembling alcoholic intoxication but which never approaches to real delirium, the patient always retaining the faculty of resisting by his reason the illusions from which he suffers. There are at the same time extreme hyperæsthesia of all the senses, and multiple and intense neuralgic pains.

"The disturbances of locomotion consist most frequently in the abolition of the sense of equilibrium, caused by vertigo and numbness; but sometimes there is paraplegia extending to complete resolution of the limbs; in other cases there is nothing more than paresis affecting all the muscles of the body. Occasionally there are involuntary impulsions, and the patient walks contrary to his will in certain directions. These various disturbances sometimes succeed each other in the same patient during the course of the affection.

"The disturbances of the circulation consist in such extreme irritability of the vascular system that the least movement excites an acceleration of the pulse by twenty, thirty, or even forty pulsations. There are, moreover, frequent and violent palpitations, which are either spontaneous or may be excited by the most insignificant causes. In addition to these movements of disorderly contraction of the heart, the radial pulse is small and most frequently slow and impressible. During the most intense period of the malady lipothymia frequently occurs, sometimes there is even syncope with complete loss of consciousness.

"To these disturbances is always added a sensation of precordial distress, which often increases to most acute pain, and then affects the form of angina pectoris.

"The invasion of the malady takes place rapidly; it is a veritable attack of the nervous system, the mode of appearance of which is instantaneous. The duration varies between two and four years, sometimes, though it may last much longer. I have reported a single acute case with very rapid course. The ordinary termination is in recovery.

"This affection sometimes presents itself with a very marked predominance of one of the principal symptoms; but it is always possible by seeking for the concomitant symptoms, to recognize the characteristic type.

"It affects two forms: one severe, the other slight. One invariable criterion distinguishes these: this is, the patient's sleep. In the severe form the patient at night is much agitated by insomnia, nightmare, hallucinations, and extreme over-excitement of the brain (always without delirium); in the slight forms the patient's rest is almost normal. Between these two extreme forms there are intermediate states. The affection is always the same, but it presents itself in very diverse degrees and intensity."

¹ Communicated to the Académie des Sciences, Paris.

ART. 12.—*Dynamics of Nerve and Muscle.*¹

By CHARLES BLAND RADCLIFFE, M.D., F.R.C.P.

The following is a summary of Dr. Radcliffe's conclusions:—

1. That the sheaths of the fibres in nerve and muscle are capable of being charged like Leyden jars, and that during the state of rest they are so charged.

2. That the sheaths of the fibres in muscle are highly elastic.

3. That the fibres of muscles are elongated during the state of rest by the charge with which their sheaths are charged; the mutual attraction of the two opposite electricities, disposed Leyden-jar wise upon the two surfaces of the sheaths, compressing the elastic substance of the sheaths, and so causing elongation of the fibre in proportion to the amount of the charge.

4. That the muscular fibres contract when the state of rest changes for that of action, because the charge which caused the state of elongation during rest is then discharged, and because this discharge leaves the fibres free to return, by virtue of their elasticity simply, from the state of elongation in which they had been previously kept by the charge.

5. That "nerve influence" antagonizes the state of action in nerve and muscle by helping to keep up the natural electrical charge which antagonizes action.

ART. 13.—*On Chronic Saturnismus.*

By Professors A. KUSSMAUL and R. MAIER, of Freiburg.

(*Archiv für klinische Medicin*, ix. 1872; *Schmidt's Jahrbücher*, No. 6, 1872.)

A house painter, aged thirty-five years, who for more than twenty years had worked with lead-colors, presented a pale-yellow discoloration of the skin, was emaciated, and complained of dyspepsia, colic, constipation, and dysuria. He had towards the end of his life two well-marked attacks of lead colic. He died jaundiced in the course of the second attack, having at first suffered from intestinal obstruction and bilious vomiting, and afterwards from profuse diarrhoea of thick faecal masses, which at last were replaced by thin bilious stools. The vomiting and painful dysuria, brought on, after an enormously increased frequency of the pulse, collapse, and death; there was no abnormal elevation of temperature, and no paralysis nor symptoms of cerebral affection were observed. On post-mortem examination the body was found considerably emaciated, and there was persistent rigor mortis of a high degree; there was some icterus, the stomach was dilated, there had been chronic catarrh of the mucous membrane of the stomach, intestines and ductus choledochus, atrophy and fatty degeneration of the gastric glands, fatty degeneration of the muscular fibres of the stomach at the pylorus, atrophy of the mucous membrane of the jejunum, ileum, and upper portion of colon, both in the rarefied stroma and in the degenerated glands; the villi intestinales, Lieberkühn's glands, Peyer's patches, and the solitary follicles were atrophied; to these lesions was added increased development of the submucous coat of the stomach and intestines, produced through proliferation of the areolar connective tissue, thickening of the tunics surrounding the vessels, and extensive deposit of fat cells in the wide meshes of this coat. Besides these lesions were observed fatty degeneration of the intestinal muscular tissue, some pigmentary degeneration of the muscular fibres of the heart, slight periarteritis at the surface of the cerebrum, proliferation and induration of the connective tissue septa of several sympathetic ganglia, viz., the celiac and superior cervical ganglia, and induration of these organs with evidences of diminished circulation, and diminished quantity of their nervous cellular elements.

¹ London: Macmillan & Co. 1871.

The dyspepsia in this case was undoubtedly owing to several causes. Firstly, the white lead inhaled during the patient's occupation formed with the gastric juice deposits of chloride of lead, and consequently rendered useless a portion of the digestive ferment; secondly, the constant contact of the mucous membrane of the stomach with particles of lead induced chronic, gastric, and intestinal catarrh; thirdly, because these processes go hand in hand with shrinking of the glands which secrete the digestive juices; finally, the atrophied condition of the villi caused a diminution of the chyle-absorbing surface, and the thickened and condensed state of the sub-mucous layer caused an obstruction to the flow of chyle into the lymphatics. These conditions, in consequence of deficient microscopical examination, were overlooked by Tanquerel des Planches, who, in forty-nine cases, noted considerable development of Brunner's glands and thickening, but never atrophy, of the intestinal walls (in cases of this kind, Brunner's glands, though very large, may still have undergone fatty degeneration). It should not be forgotten, however, that atrophy of the stomach and intestine is very slowly produced, and so can be observed only in prolonged cases of saturnismus (in the subject of the above report, the affection had lasted for twenty years). Here, colic, terminating in death, came on at a late period, after lead had, for a long time, exerted its injurious influences upon the intestinal tract, and after emaciation and occasional inability to work; whilst this symptom of colic in other cases shows itself early, and is repeated so frequently that it kills the patient, or may compel him to suspend his occupation for so long a period as may be sufficient for his recovery and the restoration of the affected digestive apparatus. Saturnine dyspepsia and colic, although the former generally precedes the latter, are by no means genetically dependent symptoms, and the post-mortem appearances are not inconsiderably modified, as one or other of these is more prominent. Probably the thickening of the sub-mucous layer of the intestines was the cause of the atrophy of the glands and villi, as proliferation of the connective-tissue and thickening of the arterial sheaths must give rise to diminution of the lumen of the vessels and deficient nutrition—consequently, atrophy of the portions of intestine supplied by the vessels thus affected.

The authors attribute the habitual constipation met with in the patient to atony of the intestinal muscular structure, and to diminished secretion of the intestinal glands. There could not have been any important diminution in the secretion of bile, although the removal of the secretion was hindered for a time by wasting chronic catarrh of the ductus choledochus. The authors attribute the colic to the observed induration of the abdominal sympathetic ganglia, and also to the proliferation in the intestinal sub-mucous layer, which part is very rich in ganglionic and nervous elements.

ART. 14.—*On the Treatment of the Febrile State.*

By WILLIAM T. AITKEN, M.D., Professor of Pathology in the Army Medical School.

(*The Science and Practice of Medicine*, sixth edition, 2 vols., 8vo., pp. 944 and 1290. London, 1872.)

We quote in full Dr. Aitken's chapter on the general principles which dictate the treatment of the febrile state:—

"To avert the tendency to death in the febrile state, it is necessary to observe how fevers naturally terminate favorably. Four modes are enumerated by Dr. Parkes, namely:—

"1. *By crisis*, in which the temperature falls suddenly in a few hours, and usually with some abundant excretory discharge, in which, possibly, much of the water which has been retained in the system is poured out.

"2. *By lysis*, in which the fall of temperature is gradual from day to day, till the normal standard is attained. The decline may thus occupy many days, the thermometer being known to take seven days in falling from 102° to 98° Fahr.

"3. *By a combination of these two modes*, namely, by a sudden fall of temperature to a certain point, and then a gradual decrease to the normal heat.

"4. *By a somewhat irregular alternation of febrile and non-febrile periods, as shown by the temperature and the pulse.*

"When fever terminates by any of these modes, convalescence commences, normal nutrition is renewed, and the body begins to gain in weight. The blood is poor in albumen and in red particles; and there is now a danger that the rapidity of metamorphosis of tissue will exceed the healthy standard, as shown by the great tendency to lose heat, which convalescents from fever have. The temperature may fall, and the excretions may diminish below their healthy amount. Great care, constant attendance, and watchfulness are required when the patient begins to convalesce, if the fever has been long and severe; and the treatment of the febrile state itself may be thus generally stated as consisting in a combination of measures—(1.) To reduce excessive heat; (2.) To insure sufficient but not excessive excretion and elimination of paralyzed nerves; (3.) To act restoratively on the exhausted and semi-paralyzed nerves; (4.) To neutralize any specific poison which may have set up the fever, and so to improve the state of the blood; (5.) To relieve distressing symptoms; and lastly, To obviate and counteract local complications (Parkes, Murchison).

"(1.) *To reduce excessive heat.*—To accomplish this, the first indication, Dr. Robert Jackson, 'the patriarch of Military Medicine,' and after him, Dr. Currie, of Liverpool, in 1797, practised, to an extreme degree, the application of cold water—a therapeutic agency which is now again challenging attention, so that medicine, like history, constantly repeats itself. Jürgensen, Liebermeister, Hagenbach, and Küchenmeister are the most recent advocates and exponents of the application of cold water in the treatment of fevers. In health, such an application tends to increase the metamorphosis of tissue, as shown by Lehmann and Sanderson; and therefore its use in the febrile state requires the greatest care and caution. It is interesting to notice that Küchenmeister confirms the accuracy of Currie's own observations. To be of use, it must be employed very early in the fever, before the third or fourth day. As soon as the temperature rises above 102.5° Fahr., or higher (104° Fahr.), the treatment by cold bath is to be commenced, and continued as long as the temperature remains so high. The effect and object of the bath is to lower the temperature—a lowering which does not reach its minimum immediately after the use of the bath. Hence the great caution required in its use. The diminution of bodily heat appears to be largely due to the excitement of skin transpiration—a condition brought about when the bath has a favorable influence. If the skin be moist and perspiring, the use of a cold water bath is not required.

"Among the many different ways of applying cold water in fevers, Küchenmeister gives the preference to Currie's *cold affusion*—the patient merely sitting in an empty tub, and having from four to six buckets of cold water (40° to 50° Fahr.) poured over him, from a height of about two feet. This form of administration is especially useful where cerebral symptoms are severe, with depression of the motor energy of the brain and cord, threatening paralysis of the heart, or severe degrees of bronchial complication with passive collection of large quantities of thick secretion in the tubes. In the unconsciousness of 'sun-stroke' it is thus useful. If the sitz or shallow bath be used, the patient must have his whole chest, front and back, well rubbed with towels till the skin becomes red, as he sits in the tub. It has been so used with benefit at an early period of *enteric fever* and *scarlet fever* (*The Practitioner*, July, 1869, p. 45). The frequent and careful use of a thermometer for determining the temperature of the patient's body is required as affording the only correct measure of the severity of the fever. It is as necessary to the physician as the compass is to the mariner at sea.

"Sometimes the patient may be laid bodily in a bath of a temperature of about 95° Fahr., which is gradually cooled down to 86° Fahr. or 77° Fahr.: as patients get stronger the bath is used colder and colder—77° or 68° Fahr. After the immersion, lasting from three to fifteen minutes or even an hour, and regulated by effects as indicated by the thermometer, the patient is dried at once and put to bed and covered as usual; and if the feet are cold, warm bot-

tles, or a hot brick enveloped in flannel, may be applied. This method, now being carried out in some parts of Germany, does not recommend itself at first sight, but it may have advantages which we in this country have not yet learned to appreciate. The proper time for the use of the remedy must not be later than the first few days of the fever, and in scarlet fever when the skin is hot and the rash bright and red. The patient being stripped should have four or five gallons of very cold water poured over him (affusion); and when the heat of the surface returns, the application may be repeated and renewed again and again. Its good effect is to lower the temperature, to lessen the frequency of the pulse and the respiration, to render the tongue moist and soft, to diminish or remove stupor, to procure sleep, and sometimes it may bring about a perspiration which brings relief. But, if there be much nervous irritability, and especially in delicate females, the *shallow bath*, as less exciting than the *cold affusion*, is to be preferred. The patient then sits or is supported in an open bath, about six feet long, in a depth of water from six to twelve inches, having a temperature of from 60° to 80° Fahr. The extremities and trunk must be well rubbed by the assistant, while water of the same temperature as the bath is gently poured over the head. The patient may remain in this shallow bath from five to forty minutes, till the temperature of the body is reduced. In cases of delirium, with a high bodily temperature (104° Fahr.), and prolonged sleeplessness, while the patient is held in a *warm bath* (92° to 98° Fahr.), ten, twenty, thirty, or more bucketfuls of cold water (40° to 60° Fahr.) are to be poured slowly over the head, hot water being constantly added to the immersion bath, so as to maintain its temperature at 92° to 68° Fahr. A refreshing sleep is sometimes the result.

"By using the *douche*, the cold water is made to impinge on some part of the body (head and shoulders, or individual joints, or any part in succession, for instance), with considerable force, and the nervous impression produced is correspondingly great—too great and uncontrollable to admit of its frequent employment in this way. Where *delirium* is furious it may sometimes be so quieted, and its good effects become visible if the pulse and breathing improve, or even continue as they were before commencing the *douche*. One good method of applying it is to place the patient in a warm bath, and then apply the cold *douche* to the head as described (Ringer).

"Great relief may also be obtained from the severe headache which is met with in acute specific fevers, if the water be employed as recommended by Prof. J. Hughes Bennett: 'A wash-hand basin should be placed under the ear, and the head allowed to fall over the vessel, by bending the neck over the edge. Then, from a ewer, a stream of cold water should be poured gently over the forehead, and so directed that it may be collected in the basin. It should be continued as long as agreeable, and be repeated frequently. The hair, if long, should be allowed to fall into the cold water, and to draw up the water by capillary attraction.'

"Sucking of ice, also, is most grateful to fever patients; it allays thirst. Cold sponging, or by tepid water, of the body is also resorted to with great relief in fevers. Sponging with very hot water is similarly useful. It will sometimes bring about relief by perspiration; while at the same time it soothes the restlessness and favors sleep (Ringer).

"Bloodletting or hemorrhage also tends to reduce temperature; but bloodletting can never be tolerated in specific fevers, such as *typhus*, *typhoid*, *scarlatina*, and the like.

"*Infusion of digitalis* has been found by Wunderlich to have a wonderful influence in reducing and moderating the temperature in many febrile states, such as enteric fever. Its most obvious action in small doses is to depress the force of the heart. The dose should therefore be cautiously regulated; it must not be repeated too soon, nor be increased, if it should not operate at once.

"*Alcohol* is another agent, shown by the experiment of Professor C. Binz, Parkes, and Assistant-Surgeon the late Count Wolowitz, capable of reducing temperature, but only in a very unimportant degree, so that its power as an antiphlogistic is very slight, and such enormous doses must be taken, that harm

can only come by any attempt at reduction of temperature from the use of alcohol. Dr. Ringer has made many observations on this point, and is convinced that little can be hoped for from alcohol as a means of diminishing the preternatural heat of fever patients. This much seems certain, however, that its anti-febrile influence is best expressed in the removal of conditions which induce paralysis of the brain and heart, and when the temperature of the body is high, as indicated by the thermometer; in this respect it approaches quinine in its action, but at the same time possesses in addition its well-known stimulating action on the central nervous system and upon the heart. Depression is generally associated with a high temperature of the blood, and passes off when it falls. But, in giving alcohol, it must be remembered that two circumstances may contra-indicate its use, namely—(1). *Its effects on the pulse.* (2). *Its influence on the tone and diameter of the vessels:*

"It increases the heart's beats as well as the strength of the contractions of the heart. If such effects are to be feared, of course alcohol is not proper to be employed, either in fevers or inflammation. Certain precautions must therefore be observed in the administration of alcohol, and its effects on the different functions carefully watched, to learn whether we obtain from the employment of alcohol good or harm: and although the pulse and heart afford the greatest and most reliable information on this point, yet the influence of the alcohol on the other organs must not be overlooked, as it may happen that while one system is benefited, others are injured, and with some good, the alcohol on the whole may do much harm (Ringer).

"The following rules regarding the use of alcoholic stimulants in fever were laid down by Dr. Armstrong, and they have been indorsed by many experienced physicians.

"During the administration of alcohol—

"1. If the tongue becomes more dry and baked, alcoholic stimulants generally do harm. If it becomes moist, they do good.

"2. If the pulse becomes quicker, they do harm. If it becomes slower, they do good.

"3. If the skin becomes hot and parched, they do harm. If it becomes more comfortably moist, they do good.

"4. If the breathing becomes more hurried, they do harm. If it becomes more and more tranquil, they do good.

"In judging also of the influence of the alcohol on the pulse," says Professor Ringer, 'its compressibility is of more importance than its volume. Under the action of alcohol, a soft and yielding pulse of large volume often becomes much less compressible and smaller, changes which show an increase in the tonicity of the arteries and in the strength of the heart.' . . . Other circumstances also afford information as to the employment of alcohol, namely—'At the two extremes of age, the powers of the body are easily depressed, and hence, with such persons, stimulants are early called for, and must be freely used. In such, and especially the aged, it is of the greatest importance to anticipate prostration by the early employment of alcohol, as when once this occurs, the greatest difficulty is experienced in restoring the patient to his former state. Young children, when weak, take stimulants even in large quantities with benefit. And with the stimulant some easily digested food should always be given.

"*Sulphurous acid* has also been proposed as an agent for the reduction of temperature by Dr. R. Bird, in *Indian Medical Gazette* for February, 1869. In drachm doses every two, three, or four hours, according to intensity of febrile heat, a fall of temperature has followed its administration, continued over twenty-four hours. In remittent fever he considers it especially beneficial, and in 'internal fever'—a native name.

"(2.) *To insure sufficient but not excessive exertion, and to promote elimination in fever*, is much more difficult than to reduce temperature; which, for obvious reasons, is not always judicious to attempt either by cold water, blood-letting, digitalis, or alcohol.

"The system ought to be supplied with an abundance of alkaline salts, if the urinary excretions are not eliminated.

"*Chloride of sodium, the alkaline salts of soda, and of potash* tend to aid

the formation of urea and its elimination. Purgatives generally, and especially *salines*—i.e., salts of the alkaline and earthy metals—tend to insure a proper excretion, probably by removing from the blood some of the abnormal products formed in fever, and great relief may follow their intelligent use. When urea is retained, they promote its elimination, because it is known that urea sometimes passes off by the mucous membrane of the intestines.

"Dr. Armstrong strongly recommended purgatives to be freely administered to fever patients during the first few days of their illness, and before exhaustion had set in, so as to produce several evacuations in the day. By free purgation in scarlet fever the severe sore throat and swelling of the glands can be prevented, as well as many other of the disagreeable *sequelæ* of this disease, such as discharge from the nose and ears. I have found the following formula of great benefit as a purgative for this purpose:—

"R. *Magnesiæ sulphatis* ʒvj.; solve in aquæ ʒvij.; adde pulv. *guaiaci*, ʒiss.; pulv. gum *tragacanth.* co. gr. xi. *Misce bene.* One sixth part of this mixture given every four hours till the bowels are freely moved, gives great relief to the congested throat and swollen glands.

"But in some fevers, as in *typhus*, purgatives must be very cautiously and sparingly given, and always in mild doses. So also elimination by the skin, to the extent of *diaphoresis*, is to be dreaded in *typhus* fever (see 'Treatment of Typhus Fever').

"(3.) *Restorative agents.*—The most important indication, however, in the management of the febrile state is to find some substance which, being 'restorative' in its action (Headland), will so act upon the blood and on the nervous system at the same time, as to restore the exhausted energies of the nervous centres.

"*Food, mild stimulants, and quinine* are all more or less employed; and *quinine* especially may be employed with benefit. *Infusion of coffee* as a medicine has been given by Dr. Parkes with the beneficial effects of relieving headache. Bocker and Lehmann have shown that the use of coffee, in health, delays the metamorphosis of tissue, and excites the nervous system. As a nerve-restorative, *phosphorus* merits some notice. And first, as *iron* is given where the blood requires nourishment and restoration, so *phosphorus* seems to nourish and restore the nervous system, especially in cases of fever, where much *phosphoric acid* has been passed by the urine. The forms in which it is given are (1) in pill, $\frac{1}{16}$ th or $\frac{1}{8}$ th of a grain of finely divided *phosphorus*, melted with fat, and the pill covered with an impermeable coating; (2) in the form of *hypophosphites of potash, soda, or lime*, given in *camphor water*, to the extent of five grains of the salt, three or four times a day. The *potash salts* seem to have a resolvent and liquefacient action so strongly marked, that great mischief may result from its incautious administration to persons affected with tubercular deposit in the lung. For the same reason it is of great value in *chronic bronchitis*, with thick fetid expectoration and congestion of lungs (Dr. Thorogood, in *Practitioner*, July, 1869, pp. 14–20). *Camphor* has been also found of use in the *adynamic* type of fevers. It acts beneficially in strengthening the pulse and reducing its frequency. At the same time it moistens the skin and subdues delirium, especially the low muttering form. *Twenty grains* or more every two or three hours are required for this result, and its effects must be watched (Graves). *Counter-irritation by blisters* has been largely employed by Graves and other physicians as a mere stimulant in fever, under the following conditions, described by Dr. Ringer as follows: 'With acute diseases, such as the idiopathic fevers and inflammations, it not unfrequently happens that persons already weak and much prostrated have their dangers greatly aggravated by the following mental state—they become apathetic and unobservant, which condition increases till it even reaches partial insensibility or coma, and they can only with difficulty be roused, and then wear a stunned, stupid, and vacant look, and understand very imperfectly what is said to them. The body generally sympathizes with this depressed condition of the mind, and its functions are more and more languidly performed, till those necessary to life altogether cease. It is a condition which may not inaptly be compared to one produced by poisoning with opium, where there is partial coma, which produces a

lethargy in the functions of the body, whose activity grows less as the coma continues and deepens. But there is no true and refreshing sleep, while it is a condition in which sleep is most urgently needed. With patients in such a precarious state, it is of all things necessary to rouse them from their state of lethargy, and with the restoration of consciousness and activity of mind, there occurs renewed vigor in the functions of the body, and the patient is removed from a state of imminent danger to one of comparative safety. To accomplish this, blisters of large size, in quick succession, and for a short time, should be applied to different parts of the body, for instance, to the chest, to the abdomen, and to the thighs and calves. I have seen very satisfactory results follow their application to the nape of the neck under such circumstances.' Dr. Ringer considers that more good is obtained by an opiate and plenty of stimulants, carefully given to produce sleep, out of which the patient wakes strengthened and much improved. No fixed rule can be laid down; each case must stand on its merits.

"The treatment of any special febrile state depends on the disease of which it forms a part, and by which it is more or less modified—forming a special topic for consideration in the part which treats of special diseases. But it is above all necessary to guard against the habit of trying always to be doing *something*. As a routine system, nothing can be laid down as a rule, either in the direction of depletion, or of evacuations, or of stimulation or restoration. The febrile state is in many diseases part of the essence of the morbid condition, which cannot be cut short nor materially subdued by remedies. There is no specific remedy for the cure of any fever; and in the present state of our knowledge regarding specific febrile diseases, there can be no specific remedy for their cure.

"Every disease where fever is present, and every case of specific febrile disease, must be studied so that its management or treatment may be regulated on the merits of the individual case; and must be regulated by the state of each particular function as determined by clinical investigation daily.

"No remedial agent here mentioned can 'cut short' a specific fever. Judiciously employed, they may render them less dangerous, and may in some cases save life."

ART. 15.—On Typhoid Fever.

By Sir WILLIAM GULL, Bart., M.D., F.R.S.

(*The Lancet*, June 29.)

The announcement that Sir William Gull would deliver a lecture at Guy's Hospital on Typhoid Fever naturally brought together a large audience on Thursday, June 20th, composed chiefly of present and past students of that school. The following is a full abstract of the discourse.

Sir William began with the remark that it is about two hundred and fifty years since one of the kings of England died of ague; but now the improved condition of agriculture and drainage in this country is such that ague has become rare, and certainly very few die of it. He then expressed his belief that two hundred and fifty years hence few will die of typhoid fever, inasmuch as this disease is as preventable as ague. Typhoid fever is, *par excellence*, to be ranked amongst "diseases," because it is caused by a virus—a virus of nature—which may get into the healthy body, and increase in it and destroy it. It is an accidental condition, and not one of the ordinary processes of nature. Therefore we ought to rise up in arms against it, as we Englishmen would rise up in arms against any enemy that should attack us or threaten us.

Sir William said that he was not going to give a lecture on typhoid fever, as such a thing would be impossible in the time allotted; but he appealed to those present, as Guy's students, to sympathize with him as a Guy's man, in late conditions which have given rise to the increased attention to the subject of typhoid fever. Many diseases that were formerly very fatal are recoiling before the advances of civilization—to wit, the plague, ague, and even cholera. Typhoid fever is stated to kill 17,000 a year in England; how great, then, must be

the number attacked ! It stood among the preventable diseases, and it was important, therefore, to know how it originates. There is no scientific theory, but there is a good working theory on the point. The origination of the disease is, somehow or another, connected with drainage. It has, therefore, been called the filth fever ; hence to get rid of the filth is to get rid of the fever. It seems as if this really is so, for Millbank Prison was invested with typhoid and dysentery, but now the water supply has been changed, and the drainage attended to, these diseases have almost entirely disappeared. No one can approach a case of typhoid fever without paying some attention to hygiene. It is no use tinkering with the disease if one does not try to prevent it, and it no doubt may be prevented. The theory is that it is connected with germs which get into the blood ; we know nothing about these germs—the air is full of them. There is an idea that they are imbibed by drinking water, and that they increase and multiply within the body. Although this has not been demonstrated, yet it is a good working theory.

The first thing then to be done is to find out what will prevent the disease. Some may say, "Tell us what will cure it ;" but this is not of such importance as the prevention. Sir William next said that he liked the name *typhoid* because the disease resembled *typhus*, and yet it was not typhus. It is an error to suppose that there are symptoms of typhoid fever essentially, for the poison may get into the body, and destroy life, without setting up any symptoms of typhoid fever proper. Some years ago a case was taken into Guy's Hospital, the patient having become suddenly ill ; and shortly after admission he died, but the cause of death was not suspected till a post-mortem examination revealed perforated typhoid ulcers of the intestines. The patient had gone about his work regularly up to the day of his death. The next subject is the diagnosis of this disease. This is sometimes at first uncertain ; patients rarely come till they have been ailing some time. The furred tongue, headache, malaise, etc., belong to other diseases besides typhoid fever, therefore the term typhoid is a good one, because the symptoms somewhat resemble those of typhus. Many other names have been given to this disease, but the one most generally adopted is typhoid fever. It has been called pythogenic fever, from its supposed origin from filth ; but it is not advisable to accept this name, as at some future time it might be necessary to change again.

The history of an attack of typhoid fever is somewhat obscure. The poison lurks in the body some time before the real onset of fever ; it may be as long as five or six weeks. The disease then begins insidiously and irregularly ; the prodromata are uncertain. Where does this poison work ? Is it in the intestinal tissue, or in the mucous membranes, or in the absorbent system ? We do not know ; we say that it is in the blood. Where are these lurking beginnings ? These are probably in the intestinal system, for we find digestive disorders and disturbance of the bowels in the first instance. It is, however, very difficult to say when the disease begins ; but if the ordinary course of health be represented by a straight line, we shall find at the commencement of the disease an abrupt deviation from this straight line, which deviation goes on increasing till the fourth to the sixth day ; consequently, we find that on the fourth day the patient is ill, and on the fifth or sixth day very ill and obliged to keep his bed. It is about this time that we first see these patients, as a rule, and how are we to tell that they have got fever ? Well, by the little instrument called the thermometer. Now, if on even the first day the temperature be normal in the afternoon, there is no fever. In typhoid the temperature increases 1.5° to 2.0° , or even 2.5° F. in the first twenty-four hours. If a person who has been exposed to typhoid fever have a headache, and his temperature be 101.5° on the first day, it may be typhoid ; but if, as is sometimes the case in persons who have been nursing, the temperature be below normal, or even if it be normal, you may be certain that there is not fever present. On the other hand, if on the first day the temperature be 105° , you may be certain that the disease is not typhoid. We see, therefore, that whether the temperature be too low or too high the thermometer will greatly assist us in making a diagnosis. The temperature goes on rising about 1.5° per diem till about the fifth or sixth day, when it reaches its maximum of about

103.5° or 104.0°, or even more. This is not absolutely true, because some persons may go through typhoid fever and know nothing at all about it. In this disease, therefore, we see that there is first a long and uncertain prodromal stage, and then the onset of fever, which is insidious. Although the degree of temperature is reliable in determining the presence or absence of fever, the same cannot be said of the condition of the pulse, for, in nervous patients, the rapidity of the pulse may be greatly increased, and yet no fever be present. It therefore becomes an important thing to use the thermometer in practice; it will save many errors if used at the proper hour of the day—that is, in the afternoon.

To return to the course of typhoid fever, we find (still adhering to the chart) that on the twenty-first day the curved line suddenly runs into the straight line of ordinary health, and the fever is completed. In some cases, however, this does not take place till the twenty-eighth day. During this course we cannot give an answer to the queries of the patient's friends, "Is he better?" We must refer them to the chart, and tell them what is the course through which the disease must go. "We shall find no word 'better' written anywhere on the curve." Without this is borne in mind much annoyance may be given to the friends, for in the morning the patient may be cooler and appear better, but in the evening he is hotter and appears worse, and if the medical man were to alter his opinion according to the degree of temperature, the friends might say that the attendant knew nothing whatever about the disease. It is necessary to wait the natural term of the disease before we can say whether the patient is better; moreover, we must bear in mind that two charts of the course of the disease may be drawn out, in which the disease is represented as lasting twenty-one days, and the other in which it lasts twenty-eight days. But it is not always easy to say which is the twenty-first or twenty-eighth day, as it is so difficult often to fix the date at which the disease began; but by carefully recording the temperature, we may tell the time to a couple of days. On the other hand, it is not always that we can say positively the patient is better on these days, for the disease may, as it were, begin again, and exactly repeat itself, and this repetition may last twenty-eight days more, or it may even triple itself, as Sir William taught many years ago, when lecturing on this subject to the students at Guy's Hospital. This triple attack may last as long as the previous ones. These repetitions have been found on post-mortem examination to correspond with fresh outbreaks of the intestinal affection; for in these cases, should death occur, some of the ulcers will be found almost healed, while others are just beginning to be affected. It is always necessary, therefore, to give a prognosis which shall allow of the possibility of these secondary attacks. But these repeated attacks do not necessarily last as long as the previous ones; they may be much shorter, lasting only one, two, or three weeks. So that typhoid fever may have a simple course of twenty-one days, or a prolonged course of twenty-eight days, or a double or triple course, the duration of which equals that of the previous attack; or lastly, a complete course—one or two attacks of ordinary duration, with another of shorter duration.

Now, in whatever manner the poison of typhoid is introduced into the system, there is a concentration in the ileum. The presence or absence of diarrhoea depends on the implication or not of the large intestine. Although the ileum is the focus of the operation of the poison, yet it does not end here, for it is reflected to every organ of the body. The incidence of the poison is on the ileum, but the reflection is over the whole body. The body reacts to these conditions, and the fever is a reaction to the local condition of the bowels; but this does not imply that typhoid fever is a local affection of the bowels, as was formerly taught. This poison reacts in other ways, as by setting up ulceration in various parts of the body. He was once called to the case of a young girl who was sickening of an illness. She had a discharge from the vagina, which led the medical attendant to doubt the girl's chastity; but he (Sir William) said that it was typhoid, and that the discharge was due to ulceration of the vagina. Another case, in Guy's Hospital, was treated as a gonorrhoea; but in reality the patient had ulceration of the prepuce from typhoid fever. In

a third case, the patient had perforating ulceration of the larynx, and he suddenly became emphysematous over the body, which "floored" him (Sir William); but this case was shown after death to be one of ulceration of the larynx occurring in the course of typhoid fever. This disease, then, is not a local one, although the focus of the action is in the ileum. But to return to the chart. About the ninth day of the disease mischief begins to show itself in the intestines, and at this time the deposit may open up a large bloodvessel, and thus give rise to severe hemorrhage, or, if it go still deeper, perforation of the bowel may take place; or the bronchial membranes may become affected, or the bronchial glands enlarged, which may give rise by reflex action to spasm of the larynx. Every organ in the body is affected if the disease be severe. Every part of the body may be affected through the nervous system. There is a tendency to reaction. There may be pleurisy; or the enlarged mesenteric glands may soften and suppurate, which may be followed by purulent infection; or the kidneys may become diseased. In fact any organ may become affected through the action of the nervous, venous, or other systems.

Now as to the treatment. This disease cannot be cut short, even in its early stage. Some have thought that it could be done by emetics, but few think so now. Others have thought that a purge of calomel and colocynth would cut short the attack, but this has been almost entirely given up. Others say that large doses of quinine will shorten the attack, or at least prevent serious complications; but Sir William related a case to which he was called, where large doses of quinine had been given, but the man was almost dead from hemorrhage, so that, in this case, the disease was neither cut short nor complications prevented. At the present time it must be granted that when once the patient has begun to go down the curve we must not dose him with medicines—we must not give him physic. The best thing is to place him in bed in a horizontal position and reserve his nervous power, remembering that he must, if he live, go through the whole course of the disease. He has to go through the reactions of his nervous, absorbent, and nutritive systems—he has, in fact, to go through "a great physiological storm." Let the patient alone, then, in this stage; "an early rest will save his power." But how is he to be treated through the remainder of the course? Is there anything to make the course less severe? Probably not. Quinine has been tried for this also, but has failed here as signally as when given to cut short the disease. It must be said that all the treatment consists of simple measures and simple diet. Medicines are only required for special conditions: for instance, if diarrhœa occur, some will give what is called "chalk mixture;" but we must remember that this has to go through about twenty-five feet of intestine. The best thing is to fill the rectum with five or six ounces of starch; it is not even necessary to put any opium with the starch. The diarrhœa only takes place when the rectum, sigmoid flexure, or descending colon is affected or irritated by acrid matters; hence if you fill these the contact of noxious matters is prevented and the diarrhœa checked. Time would not allow of more being said on this. (Here Sir William said he was not lecturing on typhoid fever but only giving a few thoughts). If hemorrhage occur, many would give gallic acid, or tannic acid, or lead, or some powerful astringent. But do not so; "don't begin with all your great guns at once." It is best to trust to the hemorrhage to cure itself, which it will do, and keep the patient at rest in the horizontal posture, giving a little opium (half a grain) by rectum or mouth if necessary to quiet the intestines. Ice may also be applied to the abdomen. This is sound advice, although it may appear terrible. The objection to giving lead or gallic acid or other powerful astringents is that they are apt to make the patient sick, and in that manner perhaps to make the hemorrhage worse. Often delirium comes on in the course of the disease. The patient may get out of bed, or even commit suicide by jumping out of the window. What is to be done for the delirium? In the first place, never leave the patient alone day or night after he has begun to descend the curve, for delirium may come on at any time; therefore, he must be constantly watched. In the treatment of this complication remember that it is due to brain-irritation, and not to inflammation, as some have imagined. There is one great remedy for this, and it is alcohol; alcohol

is the remedy for nervous irritation in typhoid fever, and, in fact, in any fever. How it acts is not certainly known, but it may be laid down that it is an important point in the treatment of all fevers. It allays nervous irritation and soothes the nervous system. Whenever, therefore, there is delirium or reflex irritation, give alcohol, in some form or another, as brandy, or wine; but when the result has been obtained, stop it; only give it when it is necessary. In fevers the use of stimulants is for the delirium, and it in no way alters the local processes, but only the reflex condition. All cases do not require alcohol, and some only require it occasionally and for a short time. Delirium even in the early stages may be checked by brandy, and never again come on during the whole course of the disease.

There is another point. Often the patient cannot or ought not to be moved out of bed. How is he to pass his stools? There is a danger of bedsores if care be not exercised to prevent them; but no man who has a due care ought, under ordinary circumstances, to have a patient suffering from bedsores; sometimes, however, the circumstances are such that these sores cannot be prevented. The bed-pan may become the source of a bed sore which may carry off the patient. Avoid, therefore, every possible cause of irritation or abrasion of the skin. This is a point which is worthy of the consideration of every clinical physician. Again, it may be necessary to pass a catheter to draw off the patient's urine. Now this may be done in such a manner as to injure the urethra, which may be in a very tender state, and cause ulceration and severe symptoms, and even death. Use, then, a soft catheter, with all possible care and delicacy. In summing up he observed that the recovery from typhoid is dependent on attention to the smallest matters.

The time will come when this disease will become rare, or even die out.

We must save the patient's strength from the beginning, and not trust to medicines to cure the disease. The *materia medica* of fever is lessening every year.

Sir William would prefer to carry any one through typhoid fever by wines and soups and fresh air, rather than by the use of drugs.

ART. 16.—On the Period of Incubation of Typhus Relapsing Fever and Enteric Fever.

By CHARLES MURCHISON, M.D., LL.D., F R.S.

(*St. Thomas's Hospital Reports*, vol. ii., 1871.)

From the facts contained in this paper the following conclusions may be drawn :—

Typhus Fever.—1. The period of incubation of typhus varies in duration in different cases. 2. In a large proportion of cases it is about twelve days. 3. In exceptional cases it is longer than twelve days, but it rarely, if ever, exceeds three weeks. 4. In many cases (one-third or more) it is less than twelve days, and occasionally there is scarcely any latent period, the symptoms commencing almost at the instant of exposure to the poison.

Relapsing Fever.—1. The period of incubation of relapsing fever is not a fixed period, and is even more variable than that of typhus. 2. It is, on the whole, shorter than that of typhus. 3. Occasionally, as in typhus, there is scarcely any latent period at all, the symptoms commencing almost immediately after the first exposure to the poison.

Enteric Fever.—1. The period of incubation of enteric fever is most commonly about two weeks. 2. Instances of a longer duration appear to be more common than in typhus or relapsing fever. 3. The period of incubation is often less than two weeks, and, as in typhus and relapsing fever, it may not exceed one or two days.

ART. 17.—*On the Convalescence of Typhoid Fever.*¹

By M. CORNIL.

(Gazette Hebdomadaire, No. 20, 1872.)

The question of relapses of typhoid fever and the possibility of the development of pulmonary tubercles during convalescence are two points which the author has sought to elucidate by means of the following case: A female patient after a severe attack of typhoid fever slowly passed into the stage of convalescence. For some days there was sub-delirium, especially at night. At the end of a short time a febrile relapse occurred, which was accompanied by all the symptoms of typhoid fever. At the fifteenth day of this relapse the severe symptoms were relieved, but the patient was still afflicted with sub-delirium, deafness, and diarrhœa. On the twentieth day there was marked amelioration, but the diarrhœa still continued. After a few days vomiting occurred, and then cough with muco-purulent expectoration. The patient daily became weaker in consequence of uncontrollable diarrhœa and vomiting, and she finally succumbed.

At the autopsy traces of typhoid fever were observed. Peyer's patches were of a slate color and in process of cicatrization; there was fatty degeneration of the liver, kidneys, and heart, and miliary tubercles were present in both lungs. At the same time one could make out the characteristic lesions of generalized enteritis.

An elaborate microscopical examination made by M. Cornil revealed the following: 1. On the normal intestines villosities, the vessels of which were filled with blood. 2. Over Peyer's patches a total absence of the superficial coat of the intestines; villosities, tubular glands, and closed follicles were all absent. There existed only an embryonic tissue composed of very numerous small spherical elements, separated by delicate fibrillæ; a certain number of these elements, especially about the vessels, were infiltrated with black pigment. At no part could any agglomeration be found of those elements in the form of nodules, nor was there any granulo-fatty degeneration to be found which could be attributed to tuberculosis.

M. Cornil, in comparing the symptoms observed in this case with the anatomical lesions, thinks that the slate-colored cicatrices found in the intestine were caused by the first attack of typhoid fever and not by the relapse, and that at the time of this relapse no fresh ulceration occurred in Peyer's patches, the mucous coverings and the glands of which had already been destroyed during the first attack. The diarrhœa and vomiting which took place after the relapse were the result of inflammation of the large intestines, and of the propagation of this inflammation to the whole of the gastro-intestinal tube; the symptoms of the tuberculous pulmonary affection were not produced until at nearly the end.

The morbid phenomena then succeeded each other in the following order: 1. A severe attack of typhoid fever. 2. A relapse of the fever with *typhoid symptoms*, caused by intense ileo-colic catarrh. 3. A discrete tubercular eruption. The author then asks whether relapses of typhoid fever are characterized anatomically by a tumefaction of Peyer's glands analogous to that of initial typhoid fever, or only by ordinary electro-colitis.

It is scarcely necessary to state that the author thinks there is no antagonism between typhoid fever and phthisis.

The well-marked fatty degeneration of the liver, heart, and kidneys was not quite comparable to that which results from phosphorus poisoning, but that it was not accompanied by albuminuria is an extremely remarkable fact, to which M. Cornil intends to turn his attention.

¹ Communicated to the Société Médicale des Hôpitaux, Paris.

ART. 18.—On the Extinction of Typhoid Fever in the Millbank Prison by the Disuse of Thames Water.

By Surgeon-Major A. C. C. DE RENZY, Sanitary Commissioner, Punjab.
(*The Lancet*, June 15.)

The sanitary history of Millbank appears to Mr. De Renzey to warrant the following conclusions:—

1. That the extinction of typhoid fever and other diseases of the same class, is quite within the range of practicability.

2. That the extinction of one class of zymotic diseases is not necessarily followed by zymotic diseases of a different class. For example: it is supposed that the increased prevalence of scarlatina and measles of late years is due to the partial displacement of small-pox by vaccination. The case of Millbank shows that it is practicable to protect a community against every kind of zymotic disease. Ignorance of sanitary science is the great obstacle to the extension of this protection to the free population.

3. That since some of the ablest physicians in London failed for many years to detect the true cause of the unhealthiness of Millbank Prison, and assigned causes for it which later experience has found to be unconnected with it, the probability is that a similar error is frequently made elsewhere, and that the prevalence of some zymotic diseases is ascribed to locality, malaria, heat, cold, variations of temperature, moral depression, and other tangible influences which would be entirely removed by the general disuse of impure water.

4. That as it required long years of observation to establish the noxious influence of Thames water in Millbank, even when well-filtered, under conditions very favorable for detection, we should be cautious in accepting the opinion, based on the results of chemical analysis, that the use of that water by the population of London is free from danger.

5. That the vital statistics of prisons, carefully kept and tabulated, would be of the greatest value as data for the investigation of the causes of disease. Those now published by the directors of convict prisons are excellent. The sanitary information given in the reports of the inspectors of prisons is of the most meagre description and of no practical use.

ART. 19.—On the Etiology of Exanthematic Typhus.¹

By M. CHAUFFARD.

(*Gazette Hebdomadaire*, No. 42, 1872.)

According to all modern classical works, exanthematic typhus is produced spontaneously, and for the development of this pest it is sufficient that large collections of men, such as constitute armies in the field or fill besieged cities, fall into a profound degree of misery, of privations, and of physical and moral sufferings. Overcrowding, faulty ventilation in camps and in hospitals, inattention to cleanliness on the part of soldiers, insufficient or defective food, excessive wet or cold, fatigue, watching, nostalgia, low spirits, defeats, the neighborhood of a field of battle in which corpses lie close under the surface, relaxed discipline and all its bad results—these are the causes, which, when united, are supposed to engender typhus; hence, this fever has been called *camp typhus*, *army typhus*, the *typhus of besieged cities*.

Without contesting the action of most of these causes, M. Chauffard holds that one is not obliged to restrict to these common factors the whole etiology of exanthematic typhus.

The accumulation of these etiological conditions was met with in the highest degree in the sieges of Paris and Metz. And yet, notwithstanding unfavorable

¹ Communicated to the Académie de Médecine, Paris.

anticipations which everything seemed to justify, typhus did not appear in either of these two cities, wherein everything seemed prepared for a ready explosion of the evil. M. Chauffard shows, by a table on which may be traced the pathological history of the siege of Paris, that all the maladies of various names and kinds which so cruelly struck both the military and civil population presented an invariable and common modality, that of the adynamic, putrid, ataxic, and typhoid state; he recalls to mind the ravages caused by purulent infection upon those wounded in war and the subjects of capital operations as a certain sign of the diminished vital resistance of the patients. With regard to exanthematic typhus, not a single case was observed, either of the complete form, of the supposed modified forms, or of that other and reduced form which is called relapsing or abortive typhus.

At Metz, where the situation was more disastrous, and where misery, overcrowding, and want, were greater than at Paris, typhus did not break out. M. Chauffard in this statement relies on the unequivocal testimony of Drs. Grellois, Libermann, Leptat, Cros, and Ehrmann, all of whom give precise and interesting accounts of the medical aspect of the siege of Metz. This absence of typhus from a city which had suffered so much and for so long a time, and in which were condensed all the generally acknowledged causes of this disease, was noted, after the raising of the blockade, by three eminent medical men in the German army, Frerichs, Niemeyer, and Langenbeck.

But the most surprising fact is this, that exanthematic typhus, which spared the besieged city, raged amongst the besiegers and inflicted considerable loss. In the victorious Prussian army, which was well provisioned and occupied large spaces, there were 6595 deaths. So that, contrary to the generally received ideas concerning the etiology of typhus, this disease was absent where everything seemed to favor its development and existed where no one expected to meet with it.

Misery, famine, and overcrowding seem, then, in Dr. Chauffard's eyes, to be insufficient to create exanthematic typhus. These causes may engender typhoid fevers and adynamic maladies of various characters; but do not give rise to that specific and regular pyrexia of well-marked type to which alone ought to be given the name of typhus.

One ought, then, to admit that there exist other unrecognized or neglected etiological conditions the influence of which is very great. The essential and chief conditions M. Chauffard considers to be race, soil, and climate. Referring to the progress and development of the two epidemics of typhus which were manifested in France, one during the invasions of 1814 and 1815, the other after the Crimean war in 1855 and 1856, he shows that these epidemics, which were contracted by our armies on a foreign soil, penetrated into France by importation only, and after the return of the troops and the discharge of wounded and diseased soldiers, who brought with them the typhus which they had contracted abroad. Then, these epidemics imported into France, and on to a soil which was not their own, soon died out, as if they had failed to meet with such elements of fecundity and renewal as they found elsewhere. "We find, then," says M. Chauffard, "in our race, in our climate, and in our soil, those conditions which hinder the acclimatization of typhus amongst us."

To these views might be opposed the facts of small epidemics of typhus observed in prisons and in galleys, such as that in Niantec, which has been so well described by Dr. Gillet, and the local epidemics which still arise in Algiers. M. Chauffard would reply to these objections, that it is difficult to prove that most of these epidemics do not derive their origin from importation, especially when they appear in galleys and in harbors. And then it is possible that in many cases unusual forms of typhoid fever, infectious jaundice, epidemic cerebro-spinal meningitis, cerebro-spinal typhus, and meningo-typhus may be confounded with true typhus fever.

From all these facts M. Chauffard thinks that he may draw the conclusion that one ought not to restrict the occasional causes of typhus to the deleterious influences of misery and overcrowding. Race and soil furnish to the etiology of this disease essential and major conditions, and typhus, like cholera, ought

to be ranged amongst the epidemic maladies of exotic origin which appear in France only by importation, and which do not become acclimatized when they have been imported.

ART. 20.—*Treatment of Hæmorrhagic Malarial Fever.*

By B. M. CROMWELL, M.D.

(*Atlanta Medical and Surgical Journal*, June, 1872.)

Dr. Cromwell says that the general principles of treatment are to avoid all remedies that tend by their action to depress the prostrated vital functions; to restrain vomiting, assuage thirst by the free use of ice; and to guard against chills by the generous use of quinine. In addition to this, the most successfully treated cases which came under his observation were those in which lime-juice and iron were freely used; the lime-juice because its beneficial effects are well known in scurvy, a kindred disease, and iron as furnishing a ready means of converting white into red corpuscles. He has seen mischief follow the use of morphia or the preparations of opium in checking the feeble eliminative process going on at the time. He also remarks, as a peculiarity of the disease, that its ravages have been almost exclusively confined to what is regarded as the healthiest portion of the country—the pine woods.

ART. 21.—*On Acute Purulent Infection.*¹

By Professor MAURICE PERRIN.

(*Gazette Médicale de Paris*, No. 44, 1872.)

"1. Contused wounds, particularly when they are complicated with fractures or interstitial effusions of blood, expose the patients to an order of severe bad symptoms, which cannot be attributed to anything else than poisoning from a wound in process of putrid decomposition.

"2. The putrid condition of the wound is indicated by the color, and especially by the fetid odor of the fluid that it secretes.

"3. The poisoning which thus results, which may be foretold when such a condition of the wound is observed, is manifested by effects which are, on the one hand, the evolution of a gangrenous process which cannot be due to primary vascular lesions, and which commences in deep-rooted progressive œdema and ends speedily in sphacelus with or without apparent production of gas; on the other hand, in general disturbances resembling those created by septic changes of the blood.

"4. This poisoning, by reason of the well defined nature of its cause, the uniformity of its symptoms, and its complete resemblance to the effects spontaneously developed or created in large animals under the action of putrid products, is best designated, as it seems to me, by the name of acute putrid infection. It is my idea thus to specify a special and accidental form of complications of wounds.

"5. Acute putrid infection cannot be attributed to the violence of the injury; for its production it is sufficient that there be present in the wound solid or fluid organic material destined for putrid decomposition and elimination.

"6. With this motive and taking into consideration the features of resemblance which exist between the facts under discussion and the facts of traumatic emphysema, we think that both may be attributed to the same cause—acute purulent infection.

"7. The treatment ought to be preventive, and should have for its objects the neutralization of the putrescible material, on the one hand, and, on the other, the setting up of as complete barrier as possible to the penetration of this material by any way into the economy.

¹ Communicated to the Académie de Médecine.

"8. Alcohol, sufficiently concentrated when employed in continuous irrigations which are directed in such a manner that all the parts condemned to elimination are bathed and in some way macerated by the liquid, seems to me to be the most appropriate therapeutical agent.

"9. Continuous irrigations ought to be instituted immediately after the reception of the injury, and on all patients suffering from contused wounds.

"10. They ought to be continued without intermission until the termination of the infectious stage of wounds.

"11. Alcohol, by the refrigeration of the tissues which it produces, moderates local reactions, renders wounds insensible, and seems to prevent the development of inflammatory symptoms."

ART. 22.—*On Intermittent Malaise.*

By HENRY ADAMS, M.D., M.R.C.P.

In a pamphlet bearing the above title Dr. Adams describes a train of symptoms for which he proposes the term *Intermittent Malaise*, "a disease akin to ague, yet as distinct from it as typhus is from typhoid." He mentions three varieties—viz., *anæmic*, *bilious*, and *neuralgic*. The first comes on with distressing feelings of lassitude and exhaustion. The patient in a general way speedily breaks out into a cold, clammy sweat, the heart's action is quickened, sometimes amounting to palpitation, the pulse is feeble, and in some cases cannot be counted. This state of depression lasts for a certain time, varying from ten minutes to one and even ten hours. Gradually reaction comes on, and the patient in a short time feels as well as ever until the next day, or perhaps the day after, when at the same hour he undergoes a repetition of the same symptoms.

Bilious intermittent malaise more nearly resembles the disease known as dumb ague, and it is met with, the author tells us, most frequently in ague districts, although he has treated it in localities where ague is known only by name.

The third type—viz., *neuralgic intermittent malaise*—Dr. Adams states, is doubtless often mistaken for simple neuralgia or *tic doreux*; but there is this very marked difference, the pain is periodic, and it is frequently preceded by a sensation of chilliness succeeded by more or less heat, plainly showing its near relationship to ague. After a certain amount of suffering the pain will leave the patient for a time, but only for a time, for on the following day at the same hour, and almost at the same moment, he will again undergo a repetition of his former sufferings, unless the disease is checked by treatment.

Dr. Adams relates a number of cases to illustrate the various symptoms for which he proposes the designation at the head of this article. Quinine, it appears, is the only remedy the author has found he could depend on for the treatment of this complaint.

ART. 23.—*Hectic Fever.*

By FRANCIS D. CONDIE, M.D., Philadelphia.

(*American Journal of the Medical Sciences.*)

Dr. Condie says that the presence or absence of hectic fever furnishes no certain evidence of the presence or absence of pulmonary disease, and under no circumstances is it of any value in the establishment of a correct diagnosis between the tubercular and what he has denominated the spurious form of pulmonary phthisis, it being as often present in the one as in the other.

ART. 24.—*Recurrent Variola.*

By M. E. WEBB, M.D.

(Boston Medical and Surgical Journal, June.)

Dr. Webb reports an interesting case of this in a healthy and well-nourished child aged seven months, who a month previously had been unsuccessfully vaccinated. The disease was discrete variola, so diagnosed by competent authorities. The child, probably, was infected by the sister, and a fatal case of the disease died some days after. The child perfectly recovered, with several well-marked scars on various parts of the body. Five weeks after the child had a second attack which proved fatal on the eighth day, during the secondary fever.

Dr. Webb was informed by Dr. Green, City Physician, that he had seen during the present year seven cases in which variola had occurred a second time. In these, however, many years (from fifteen to forty) had elapsed between the first and second attacks, while in the case first cited the disease occurred in the short space of five weeks.

ART. 25.—*Treatment of Dropsy.*

By F. T. ROBERTS, M.D.

(The Practitioner, May.)

Dr. Roberts, in a paper on this subject, calls attention to the following measures, which may be employed with advantage in different cases, and in many two or more can be combined. 1. The maintenance of *rest* and of an *appropriate position*. 2. The use of baths, both *general* and *local*. 3. The employment of regular and systematic *pressure*. 4. Removal of the fluid by *operation*. One or other of these may be employed with advantage in different cases, and in many two or more can be combined.

1. The object of *rest* and *position* is to place the parts affected in a posture unfavorable to the action of gravity, so that the veins may not be over-distended or the fluid tend to accumulate in dependent parts, and thus, with the aid of rest, to promote the absorption of what has already collected. It is in the case of anasarca of the legs and œdema of the scrotum that attention to this point proves most serviceable.

2. He advocates having recourse to the *regular* employment of some effectual bath if it is desired to excite the excretory functions of the skin sufficiently to produce any marked benefit. If it can be used, a general bath of course acts best, and either the hot-air or vapor bath is to be preferred; it is especially in the general dropsy of Bright's disease that these are valuable. In many cases, however, especially in cardiac affections, the patient cannot bear a repetition of either of these, and under these circumstances I have found marked benefit from the application of local heat and moisture in the following simple manner, by which the parts are kept in a perpetual local bath. Each leg is wrapped up, from the hip down, in a large flannel, wrung as dry as possible after having been dipped in very hot water, and this is enveloped in a piece of Mackintosh of sufficient size, which prevents evaporation and cooling; the flannels are changed about every hour, care being taken to avoid chilling the patient, and the legs are well dried before a fresh application is made. I have often been surprised at the very satisfactory results of this plan, both in hospital and private practice, if persevered in for two or three days, and there is no difficulty, as a rule, in following it out.

3. Considerable advantage may be obtained by the employment of steady and continuous pressure, applied by means of bandages or some elastic apparatus, care being taken that it is made properly and uniformly, varying its amount according to the nature of the case. Not only is it useful in itself, but it materially helps another mode of treatment hereafter to be considered.

In local dropsies, the result of venous obstruction, this does more good, he says, than anything else.

4. The early and, if necessary, repeated performance of *paracentesis abdominis* in appropriate cases of ascites is strongly advocated.

Puncturing the legs and scrotum, when considerable œdema exists in these parts, is also recommended. In cardiac dropsy, a few punctures, repeated for some days, may, he says, give material help in removing the fluid altogether, at all events for a time, by relieving the over-distended vessels, and thus enabling them to absorb. Of course permanent benefit is not to be expected in these cases, but it is a great thing to relieve the very unpleasant feelings associated with this form of dropsy. In the case of the legs, it is below the knee that the punctures should be made, as, if they are made above this point, urine may come into contact with them, and lead to erysipelas. It is unnecessary to make large incisions, the punctures produced by ordinary harelip pins answering very well. Several may be made at intervals in dependent parts, also on the dorsum of the foot, if required; and they may be repeated, if necessary, so long as there is no sign of irritation. It is advisable to wrap up the limbs in cotton-wool and flannel, which should be frequently changed. As regards the scrotum, this may be punctured in several points on both sides, and then well fomented. Great care must be taken to keep this part clean. In some cases the operation causes it to become indurated, and this condition resists the further accumulation of fluid.

ART 26.—Report of a Case of Acute Rheumatism with Cerebral Symptoms and High Temperature treated unsuccessfully by Cold Affusion.

By REGINALD SOUTHEY, M.D., F.R.C.P.

(*Medical Times and Gazette*, Oct. 19.)

At a meeting of the Clinical Society of London, October 11th, Dr. Southey related a "Case of Acute Rheumatism with Cerebral Symptoms and High Temperature treated unsuccessfully by Cold Affusion" in a well-built man, aged thirty-five, of highly nervous temperament, in the habit of drinking wine and beer, but not intemperate. This was his first attack of acute rheumatism. The rheumatic articular inflammations were not established until after he had been ailing for fourteen days, with a temperature ranging between 100° and 102.5°. The rheumatic symptoms were well marked. The invasion of several joints with swelling and redness, the tongue, the pulse, and the sweating were highly characteristic. On the eighteenth day of illness pericarditis set in, the joint-inflammation suddenly subsided, and delirium of a peculiar kind, preceded by head-pain and obscurity of vision, presented itself; the temperature now ranged between 104° and 105° in the axilla for ten days, while twelve grains of quinine, from six to ten ounces of brandy per diem, and various opiates, as well as chloral, were administered with little sedative effect. Bronchial symptoms now ensued, with great failure of power, although food and stimulants were freely taken. Delirium, akin to coma vigil, still continuing, and his temperature marking 105°, the patient was immersed in a bath quickly cooled down from 96° to 71°. The effect was immediate dissipation of delirium, with reduction of temperature to 100.5, followed by short repose; but, the bodily temperature quickly rising again, he was maintained wrapped in a wet sheet exposed to the air of the room at 65° for an hour. After this his temperature fell and remained between 101° and 102° for two days. Some rest was now obtained, the pulmonary symptoms relieved, and respirations fell from 36 to 28 per minute. Subsequently, the wet sheet was frequently employed, on four occasions as often as three times in the twenty-four hours, with invariable relief of the delirium and subsultus. From the eighteenth day of his illness up to the fortieth, quinine was given in doses varying from twelve to twenty-four grains in the twenty-four hours, as well as brandy, from four to ten ounces, without noticeable good or ill effect. On the thirty-third day of his illness, his temperature fell spontaneously to 100.5°; he was then quite rational for twelve

hours, and there was a slight return of the rheumatic pains in the joints, which lasted, however, only for a few hours. The patient gradually sank with low broncho-pneumonic symptoms on the forty-second day of his illness. The post-mortem examination revealed that swollen condition of the glandular viscera ordinarily discovered after all acute febrile diseases, but no tubercle anywhere in the body, and no apparent mischief in the brain or its membranes. The author of the communication considered the case one of cerebral rheumatism, and thought that the cold-water treatment had prolonged life and relieved the delirium.

ART. 27.—*On Asiatic Cholera in Africa.*

By WILLIAM SMART, M.D., C.B., R.N.

(*The Lancet*, July 27.)

At a meeting of the Epidemiological Society of London, on June 12th, a paper was read by Dr. Smart, C.B., R.N., "On Asiatic Cholera in Africa." Africa, from its geographical features and social conditions, possesses four epidemiological regions: 1. Egypt and Tripoli. 2. The western basin of the Mediterranean so far as Algeria and Morocco form part of it. 3. The West Coast south of the Sahara. 4. The East Coast from Abyssinia to the Portuguese settlements. Egypt, next neighbor to Arabia, has not suffered invariably when Arabia has done so. Its visitations have been of short duration. It has on one occasion only been the source of European infection, in 1865, and, on the other hand, it would appear to have been infected from Europe in 1854. Tripoli, although not always involved in the epidemics of Egypt, as in 1847-48, and '54, has had its visitations concurrently with others of that country. Tunis has generally followed on Algeria after a year's interval. In 1859-60 it escaped when Algeria was infected. Egypt was also then untouched, Arabia being infected. The western basin of the Mediterranean, except in 1865, when it received its infection from Egypt, has participated in the epidemics of Northern Europe imported into its Atlantic States. But in 1853, and again in 1859, its epidemics are said by some to have had regional origin and growth in the Peninsula. Algeria and Morocco have been always indebted to the European shore for the "contagion" of cholera, the former generally to France, except in 1834 and 1859; when it was so to Spain, and the latter to Spain usually. Morocco was free in 1865, when Spain was severely visited, but this was reversed in 1868, Spain being then free and Morocco diseased, having relighted the epidemic that had been present in Algeria in 1866-67, and in Tunis in the latter year. Both Morocco and Tunis had excluded cholera by quarantine in 1865, but they failed later on their land frontiers. The West Coast of Africa was visited for the first and only time in 1868-69, when the disease appears to have been carried from Fez across the Sahara to an upper trading station on the river Senegal by caravans. It then extended to the Gambia and Rio Grande through the inland stations, and was at the same time present in the state of Bonadoo, 800 miles inland, betwixt the watersheds of the Niger and Gambia. The East Coast of Africa, from Abyssinia to the Portuguese settlements, has had a series of epidemics entirely apart from those of Egypt. Abyssinia is in constant communication with Arabia, and during the season of the N.E. monsoon, from December to March inclusive, Zanzibar has many arrivals from India, the Persian Gulf, and Arabia, from either of which cholera might be conveyed, to be spread from it southward by means of the native trading craft. The first visitation was in 1836-37, affecting almost exclusively the negro race. It crept along the north coast of Zanzibar, and from that port to the stations south of it, remaining only a few weeks in Zanzibar. The second visitation was in 1856. It was confined to Abyssinia. Arabia had suffered in the two preceding years, and Zanzibar was undergoing a heavy loss by smallpox in the same year. The third visitation fell in 1858-59, whilst Arabia was in an epidemic from Muscat to Djeddah. The disease appeared early in the monsoon in the ports south of Guardafui, and extended to Mozambique with great epidemic force. At the fourth visitation of 1865, the year of the

last great epidemic that spread into Europe from Arabia, the disease showed itself very early in the year in Abyssinia, and at the fair of Berbera on the south shore of the Gulf of Aden. From this latter place it was conveyed by caravans to the coast of the Indian Ocean; but, being late in the monsoon season, it did not extend to Zanzibar. The fifth and last visitation of Zanzibar, in 1869-70, has been traced by Dr. Christie as far as the Galla country, travelling slowly southward among pastoral tribes. It seems not impossible that it may have been conveyed into Africa by the negro pilgrims of Soudan, called "the Takroories," or people of Tacrur, which embraces the fertile plains from the Nile to the Niger. This race was the first to suffer from the epidemic in Arabia, and they may have carried it home with them into the centre of Africa, from which it may have extended westward to Bonadoo by the course of the Niger, and southward by the Nile to the place where the Arab caravans from Zanzibar fell in with it, and took it back with them to that emporium, from which it was carried again inland by caravans that followed a more southerly direction, and northward by native craft to Socotra. In 1870 it spread southward as far as Quillimane, and seaward to the Cormoro Islands and Madagascar, and from it to Mauritius, an island that had on previous occasions been infected direct from India, or had grown its own epidemics of cholera. A remarkable feature of the epidemics of the East Coast of Africa is that they have, with the exception of that in 1865, arisen in the apogee of the great epidemic cycles, when about to cease beyond the limits of Asia, and not when first issuing forth from them, which is strange if we consider its direct intercourse with India. The history of cholera in Africa bears very strong evidence to the theory that its spread is entirely regulated by human intercourse and timed relatively to the rapidity or slowness of that intercourse, Africa in this respect presenting the very antithesis of what is shown where mankind travel by steam power; consuming years in effecting as much as is there completed in months. In the African epidemics the native negro races have suffered incomparably more severely than the Arabs, Indians, or Europeans present with them. On the Mediterranean shores of Africa there have been repeated instances of the abortive introduction of the contagion of cholera, and others where epidemic intensity has speedily followed on apparently trivial importations. In Algeria the outbreaks have always followed on a history of importation, and they have been manifested in crowded hospitals, prisons, and barracks and camps, and evacuation of these, wherever it has been applied to such foci, has been invariably successful in cutting short the epidemic. Ample proofs have been amassed of the efficacy of strict quarantine in excluding cholera on the seaboard, although it has appeared in parts thus temporarily exempted after suspicion had ceased and quarantine relaxed, being introduced by a slower land intercourse.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 28.—*The Agency of the Mind in Etiology, Prophylaxis, and Therapeutics.*

By AUSTIN FLINT, M.D.

(*American Practitioner and New York Medical Record*, March 1.)

Professor Flint, in a practical paper on this subject, remarks: That the proper exercise of all the faculties of the mind, the sentiments as well as those belonging to the intellect, is the great requisite for mental health, and consequently for happiness.

Mental disorders not amounting to insanity, it seems to him, are not sufficiently considered by medical writers, and their importance is apt to be underestimated by practitioners of medicine. These disorders not unfrequently precede and lead to insanity; and there are grounds for the belief that timely

attention to the former, on the part of the physician, would often prevent the latter. Those who give exclusive or special attention to the treatment of cases of insanity, do not, as a rule, see patients until after they have become insane. The treatment of mental maladies, which precede and lead to insanity, must devolve upon the general practitioner.

In so far as bodily health and vigor affords protection against disease the exercise of these sentiments is prophylactic. The state of the mind of a patient enters in many cases more or less largely into the prognosis. To develop and maintain this hope and confidence should enter, within proper limits, into the aims of the physician. In regard to the success in treating diseases and obtaining practice, the mental temperament of the practitioner has much to do in this matter. Some physicians are prone to look always on the dark side of cases. Others are distinguished for always taking the most hopeful view of cases; they look ever on the bright side. The effect is often more powerful than medication. There is an injudicious extreme in the latter direction, and between this extreme and the opposite there is a golden mean; but if there must be a deviation from this mean, it is desirable that it should incline to hopefulness rather than despondency.

ART. 29.—*On Constitutional Syphilis in its Relation to Psychosis.*

By Dr. WILLE, of Zurich.

(*Annales Medico-psychologiques*, No. 1, 1872. *Annales de Dermatologie et de Syphiligraphie*, No. 5, 1872.)

This question, which has already been frequently treated by lunacy physicians, has recently become the order of the day of their studies, and, indeed, deserves all their attention, the more so as the clinical and pathological investigation of encephalic syphilis has much advanced corresponding psychiatric investigations.

Syphilitic psychosis presents itself under two forms—congenital intellectual weakness and an acquired mental malady; it is this latter form only that Dr. Wille has studied in his memoir.

Many points have yet to be elucidated in the history of the etiology of syphilitic psychosis. According to the personal observations of Dr. Wille, one meets with syphilis as a cause of mental alienation in from 2 to 2.5 per 100 of patients; it is probable, however, that the proportion is in reality much more considerable.

Dr. Wille has collected 77 cases, 11 of which were under his own observation.

The most frequent symptom of syphilitic alienation is progressive dementia with considerable loss of memory, but with ideas of dignity and of riches; this condition is, in most instances, preceded by a prodromic period of melancolic-hypochondriacal depression.

Acute syphilitic alienation may present all the known forms of mental maladies, and it frequently alternates with the condition of depression and intellectual weakness mentioned above. In addition, there are in almost all instances symptoms of physical cerebral disturbance, such as paralysis or hyperæsthesia of some cerebral nerve, hemiplegia, phenomena of irritation, convulsions, muscular trembling, etc.; to these may be added also the characteristic cephalalgic pains.

Syphilitic mental alienation may break out immediately after infection, but it is often preceded by epileptico-apoplectic attacks, at the termination of which it is sensibly developed. Sometimes finally it presents itself in the form of mania, of acute melancholia, or of acute delirium; but cases of this kind are very rare, for, as has been before observed, the affection most frequently occurs insidiously and with a chronic course under the form of progressive dementia.

These chief groups of syphilitic lunacy may be distinguished:—

1. The simple irritative forms;
2. The forms with general symptoms of psychical disturbance;
3. The forms with symptoms of circumscribed organic changes of the brain.

The first of these groups is generally due to an anæmic condition of the brain, the second to morbid changes of the meninges and to general softening of the encephalon, whilst in the third there are circumscribed lesions, such as partial inflammatory softening, with an affection of the arteries (atheroma, thrombosis) and gummatous neoplasms, which seem to play the principal part. It should be added that the autopsy sometimes (even in cases where any serious cerebral symptoms have been presented) gives no explanation of the disturbances observed during life.

The diagnosis of syphilitic mental alienation is based upon the history of the case, the concomitant symptoms of constitutional syphilis, the physical and psychological symptomatology, and the course of the affection, but very often the diagnosis is only a probable one. The correctness of the diagnosis becomes almost certain when the psychical disturbances are dispersed by a course of anti-syphilitic treatment, or when there has been decidedly made out a progressive paralysis with dementia in a patient above the age of twenty years.

With regard to the prognosis, this is favorable when the psychosis is primary and uncomplicated; cases in which there are convulsions or localized paralyses are doubtful; those which present symptoms of progressive paralysis are the most serious.

Anti-syphilitic treatment should not be very energetically applied at first. If iodide of potassium and mild mercurials do not suffice, recourse should then be had to inunction with blue ointment. A tonic and strengthening régime is always indicated.

In concluding his memoir Dr. Wille, relying on etiological, symptomological, and anatomical considerations, pronounces absolutely against the theory which represents syphilitic psychosis and progressive paralysis of the insane one and the same affection.

ART. 30.—*On Syphilitic Changes of the Encephalon.*

By Dr. HEUBNER.

(*Annales Médico-psychologiques*, No. 3, 1872; *Annales de Dermatologie et de Syphiligraphie*, No. 5, 1872.)

It is known what close analogy there is between syphilitic psychosis and general paralysis; some authors have even asserted that this latter affection is always the result of venereal infection. Experience proves the contrary; but still there are cases in which it is almost impossible to say whether one has to deal with syphilitic psychosis or with simple general paralysis. Dr. Heubner has studied the symptoms which enable one, in many cases, to attain an almost certain diagnosis. Of these the following are the principal: Apoplectiform attacks, followed by hemiplegia and various disturbances of motility which are especially characterized by occasional very rapid and even instantaneous disappearance, as in hysteria; intense cephalalgia at the commencement of the affection; blepharoptosis, strabismus, and amblyopia: of these symptoms blepharoptosis is especially characteristic.

With regard to the anatomical changes Dr. Heubner has met with multiple thrombosis in the arteries at the base, and thickening, adhesions, etc., of the dura mater, in the neighborhood of those vessels. In cases where syphilomata exist, these are found between the pia mater and the gray substance and also along the course of the vessels, and excite adhesions of the dura mater. Anti-syphilitic treatment will often be crowned with success, and it is the physician's duty to try it even in doubtful cases; for the prognosis of general paralysis is so unfavorable that, though success may not be obtained, nothing will be lost.

ART. 31.—*Experiments in Epilepsy.*

By Professor BROWN-SÉQUARD.

(Cincinnati Clinic, March 16, 1872; and *Edinburgh Medical Journal*, October.)

In a lecture recently delivered at Cincinnati, the author directed special attention to the phenomena of arrest of nervous activity, the most apt illustration of which is stoppage of the heart's action by a blow on the epigastrium, the shock being conveyed to the brain and reflected on the heart by the par vagum; and he pointed out that this arrest of nerve force by peripheral irritation was full of promise in explanation of the therapeutic action of remedies. He pointed out that, in guinea-pigs, and even in man, a current of carbonic acid gas forcibly directed upon the larynx sufficed very materially to abridge the duration of the fit, and in the animals at least—for opportunity was wanting to prove this in man—to cut short the disease. In cases induced by laryngismus, cauterization of the larynx has the best effect. In spinal epilepsy depending upon congestion of a limited portion of the dorsal division of the cord, the phenomena of arrest may be induced by the slightest form of peripheral irritation; in one case, by a smart pull at the large toe. The cure of sciatica in Corsica by cauterizing the ear is only another application of the same principal. And so also compression of the limbs, or binding them with a ligature—procedures sanctioned by long practice—acts on the same principle. We irritate certain nerves, and this irritation is transmitted to the cells of gray matter at the base of the brain and in the spinal cord. Formerly we thought that by acting thus we prevented something passing from the periphery to the brain; now we know that the action is just the reverse.

ART. 32 — *Nitrite of Amyl in Epilepsy.*

By S. WEIR MITCHELL, M.D.

(Philadelphia Medical Times.)

Two cases of epilepsy with distinct aura or other form of warning symptom, relieved by the inhalation of nitrite of amyl, are reported by Dr. S. Weir Mitchell.

He states that in another class of rare cases it may also prove of service. There are certain epilepsies in which the spasms last four hours, one fit following another. In these he commonly employs with success injections under the skin of bromide of lithium, using thirty or forty grains in three or four localities; but he has twice checked these attacks at once by inhalations of the nitrite of amyl. In one of them there was a second fit, but no more, which was unusual. In the other, which lasted always several hours, the nitrite was used at the close of an hour in the third convulsion. Relaxation instantly occurred; the fit passed off, and no other followed. Ether has been frequently employed in this case, but it merely mitigates the attack, and its use has to be kept up for two hours.

ART. 33.—*Use of Phosphorus in Neuralgia.*

By S. M. BRADLEY, F.R.C.S.

(British Medical Journal, Oct. 26.)

Where the neuralgia is accompanied by much nervous waste, as is often the case in the nervous and sanguineo-nervous temperaments, Mr. Bradley recommends a couple of drops, equal to one-fifth of a grain, of the mother tincture of phosphorus in a little glycerine. Romberg calls neuralgia the cry of the hungry nerve for blood; it would perhaps be more correct to say, it is the demand for its special food, which is phosphorus contained in the blood. This at least seems the *modus medendi* which phosphorus effects in curing neuralgia.

ART 34.—*On Heat-Stroke.*

By FRANCIS E. ANSTIE, M.D., F.R.C.P., Lecturer on Medicine at the Westminster Hospital School, Honorary Fellow of King's College, London, etc.

(*The Lancet*, Oct. 26.)

Heat-stroke. Dr. Anstie describes as acute poisoning of the nerve-centres with superheated blood.

The typical circumstances in which it occurs are, the fatiguing marches of troops through the heat of the day in a tropical climate, or the incautious over-exertion to which tiger-hunters will expose themselves under a similar sun-heat. It is by no means necessary, however, to encounter the direct rays of the sun in order to get heat-stroke. In fact some of the most disastrous outbreaks of the malady have occurred among soldiers packed in overcrowded dormitories or overcrowded ships, and case after case has happened in the night; and when once the temperature of the air is raised to an extreme height, it is certain that the foul atmosphere of crowded rooms or cabins is a powerful aggravator of the effects of mere heat. Stripped, however, of the accidental features which are thus sometimes introduced, heat-stroke essentially offers the phenomena of an acute paralysis of the nerve-centres generally, bearing, with more or less of dangerous force upon the centres of respiration and of heart-movement. Two clinical forms are recognized by the authorities—the cardiac and the cerebro-spinal. In the former the course is rapid and the issue fatal almost from the necessity of the case; in the latter there is far more chance for life, and at any rate the end does not come so soon.

In the cardiac variety there may be no preliminaries whatever: in an English instance that came within Dr. Anstie's own knowledge (though not under his care), a laborer, making hay, was working with full vigor when he fell forward on his face and immediately turned over on his back; his eyes were wild and staring, he gave one or two sobbing inspirations, and died. It was conjectured at the moment that there must be a cardiac disease, or else extensive cerebral hemorrhage, but post-mortem examination showed the heart to be healthy, and the brain free from any mischief except a trifling congestion. The skin just before death felt intensely burning to the touch, and remained so for some time after death. There are plenty of such cases recorded by Indian medical authorities. Sometimes, however, there is a short initial period, in which the patient is conscious of rapidly-increasing and oppressive bodily heat; the skin is dry and burning, the conjunctivæ congested, the patient's look is wild, and he complains of a feeling of distressing tension in his head, then suddenly there comes a fainting collapse, or a succession of faints, and death.

In the cerebro-spinal variety, which is the commoner, there is usually a distinct train of preliminary symptoms. Not only are there the sensations already described, but very commonly there is mental derangement, usually of the nature of hallucination; the patient is more or less delirious, and his talk is of some imaginary assailant, or of imaginary scenery, etc. Occasionally he becomes dangerously furious, and homicidal or suicidal. A very common occurrence is that of frequent micturition. After a short time the patient becomes drowsy, lies down, and passes into a state of coma with stertorous breathing; the insensibility becomes more and more profound, the conjunctivæ more congested, but with a pink tint, the action of the heart tumultuous, the radial pulse quick and sharp and (if the case is going to end badly) very compressible; in many cases there are general convulsions, but in many others the patient lies motionless from first to last, and simply sinks out of life. In some cases of the cerebro-spinal form the symptoms of the cardiac variety are also present, and the patient's death is partly due to syncope.

Such are the phenomena of the more characteristic forms of heat-stroke as they are described by various Indian surgeons, and well summed up in the able article of Dr. Maclean (*Reynold's System of Medicine*, vol. ii.), who has him-

self had abundant experience of the disease. But he calls attention to another form of the disorder, the true nature of which is very commonly ignored. It occurs in infants and young children, and, like the more typical varieties as observed in adults, may be equally produced by exposure to direct sun-heat, and also by extremely high temperature in bedrooms or nurseries, but only when the temperature of the general atmosphere is high. Under these circumstances the perspiratory action of the skin, which may up to that time have been excessive, suddenly ceases, and is replaced by dry burning heat of the surface. This is soon followed by further disturbance, which most commonly takes the form of *diarrhœa*—an interesting circumstance, because acute heat-stroke in the adult is nearly always accompanied by obstinate *constipation*. Unless the moisture of the skin be speedily restored there is very soon profound affection of the nervous centres, which usually takes the form of general convulsions; between the attacks the patient lies listless, with closed eyes, or absolutely comatose. He may either sink away in profound coma, or may suddenly start up in the nurse's arms, with blanched face and dilated pupils, take two or three gasping inspirations, and die in syncope. Now these attacks very commonly occur in infants who are teething, and it is sadly frequent for the whole blame to be laid on dental irritation, the poisonous action of superheated blood being ignored, and the whole treatment being directed to the relief of a supposed tension of the gums, and to quieting the nervous system and checking the *diarrhœa* by sedatives and astringents. A far more excusable mistake, and one which it is sometimes impossible to avoid, is the supposition that the child is laboring under the early symptoms of a specific fever.

With regard to the general principles of the treatment of heat-stroke, the author says these appear to be very plain; and, fortunately, experience bears out the conclusions of common sense. In the first place, we must remove the patient instantly to a cool place and strip him. In the cardiac variety, with syncopal tendencies, we are confronted with the danger of instant death, and our first care is to rouse the action of the heart and the respiratory muscles; accordingly, we place the patient in an empty tub or hip-bath, and pour cansful of the coldest water we can get over his neck and shoulders and chest, place ammonia to his nostrils, and (if he can anyhow swallow) pour small quantities of half-and-half brandy and water down his throat. Once the immediate danger from syncope is over, our next care is to carry out a rapid reduction of the temperature of the blood, and for this purpose we either repeat the cold douche at short intervals, or "pack" the patient in a sheet dipped, and frequently redipped, in water with lumps of ice in it, or put him in a bath of water of 90°, which we then cool down (by the addition of ice or cold water) to about 62° in the course of twenty minutes or half an hour. The duration and frequency of repetition of either of these means of applying external cold must be regulated by the frequent use of the thermometer, the point being to keep the bodily temperature at least as low as 102°, but never to reduce it below 97°. Often it will rise again and again, during several hours, and we ought never to be satisfied till it stands permanently at not more than 99°. It is necessary, however, to bear in mind the caution given by some of the best Indian observers, not to persist with the douche when it produces a clammy state of the skin, with sighing respiration; and if, for these or other reasons, we cannot apply continuous external cold, it becomes necessary to think of other measures for reducing the temperature. We may try Dr. Parkes's plan of injecting ice-water into the rectum, or we may try to get the skin to act again by medicines. Dr. Maclean says that nothing in this way is so powerful as the secret medicine called Warburg's tincture; but if we should be unable or unwilling to use this, it is probable that the tincture of aconite will effect all that it could do, for aconite is an exceedingly powerful sudorific. It should be given in the method of small doses, very frequently repeated; a single drop of the tincture every five minutes at first, and afterwards at intervals of ten minutes, twenty minutes, an hour, etc. In this way we get a strong and continuous action on the skin without provoking tonic

cardiac symptoms. The patient must be supported from the first with frequent food and small doses of brandy (two drachms every hour).

The cases attended with convulsions have been found to bear the douche very ill; it irritates and exhausts them too much. Dr. Tuke suspects it would be better to apply the whole bath gradually cooled down in the manner already described; but chloroform should be previously given, in just sufficient quantity to still the spasms, for which purpose it has been found very useful.

It is easy to make up one's mind to the simple and rather heroic line of treatment above described in the instances of adults attacked with the typical form of heat-stroke; but it is not so easy to carry out, with determination, a similar method for children and infants attacked with the heat-stroke—diarrhœa with convulsions or coma. Yet this is doubtless the true principle to go upon, and Dr. Anstie has acted upon it with great success in three instances—in two of these by the application of external cold (once douche, once cooled bath); in the other, the child seeming very feeble, he employed tincture of aconite in the numerous small doses above described—and the general impression left on the author's mind is that the old routine treatment of infantile summer and autumn diarrhœa ought to be entirely abandoned in the cases where there is pungent, dry heat of skin, and the evidence of previous great exposure to heat. And it may now be said, from accumulated experience, that this treatment would do no harm even if by chance it happened that the disease were not heat-stroke, but the early stage of some specific fever—provided, of course, that the cooling process be carefully guarded by the constant use of the thermometer.

The prophylaxis of heat-stroke rests, of course, upon very obvious principles, though these are constantly neglected in this country. The natural craze for sending all children indiscriminately to the sea-side, where they fry upon the hot sands all day long without adequate covering either for the head or neck, leads to a considerable amount of mischief of this kind. On the contrary, in India and other countries where heat-stroke would otherwise be very common, the inhabitants readily protect themselves by loose garments of non-conducting material, and especially by light but thoroughly non-conducting coverings for head and spine, from the effects of direct exposure to the sun. Of equal importance is the avoidance of overcrowding and bad ventilation of sleeping-rooms in hot weather. But it should specially be remembered that great fatigue is a most powerful additional predisposer to heat-stroke, and that very much less of actual exposure to high temperature will produce the latter in a previously exhausted than in a comparatively unfatigued man.

One of the most important matters on which Dr. Anstie dwells is the *sequelæ* of heat-stroke. There may be no such consequences, but there very commonly are; and some of these are very serious, and require to be dealt with in a particular manner. One of the commonest sequelæ is epilepsy; and there are some cases of epilepsy after sun-stroke that are very mild. It is to these, probably, that Dr. Maclean refers when he says that epilepsy after sun-stroke is usually curable merely by removal to a milder climate. But there is a very considerable number of instances in which genuine heat-stroke was followed by a few attacks of epilepsy, which almost or altogether ceased on the patient's arrival in England; nevertheless, there remained behind a state of brain which was altogether peculiar. In the first place, these patients nearly always showed marked impairment of memory, though that impairment might be very unequal as regarded different sorts of memory. Secondly, they are often intensely irritable, and it is not safe to calculate their probable conduct under certain strains and provocations on the same principle as you would calculate that of ordinary folk. Thirdly, a man who has once had genuine heat-stroke is almost always quite unfit to be allowed to taste a single drop of alcohol; that substance has become a deadly poison for him, and even its moderate use, if persisted in, will very likely reduce him to a condition of insanity. We are not too lightly to accept the assertion that a patient "has had a sun-stroke;" many who say this have never so suffered at all, but have been *drinkers*, or have had syphilis with tertiary symptoms affecting the brain; and both these causes indefinitely heighten

the tendency to subsequent mischief, and also the morbid irritability to alcohol. The mildest cases even of genuine sun-stroke require much after-care. The skin, as Dr. Maclean shows, is long in recovering its activity of function, and it is very necessary to hasten this recovery by very diligent frictions, baths, and shampooing. The bowels often remain obstinate, and sometimes even a course of faradization (negative pole in rectum) will be advisable, in order to assist in restoring their tone. Obstinate headache is also sometimes a very troublesome and intractable sequel of heat-stroke. Dr. Maclean says that iodide of potassium and prolonged counter-irritation to the nape of the neck sometimes relieve; but sometimes, also, nothing appears to do any good. Dr. Anstie is inclined to believe that a rather prolonged course of cod-liver oil offers the best chance.

ART. 35.—*The Local Distribution of Insanity.*¹

By T. S. CLOUSTON, M.D.

(*British Medical Journal*, August 24.)

After pointing out that a comparison of the last report of the commissioners in lunacy and the preliminary report of the census of 1871 showed that the rural agricultural districts had far more lunatics in proportion to the population, Dr. Clouston said that the increase for the whole of England and Wales, between 1861 and 1871, was 13.15 per cent. An examination of the counties that were decreasing or most markedly stationary, and the counties whose decimal rate of increase was far above the average, led to the conclusion either that the causes of a decreasing or a stationary population were also the causes of increased lunacy, or that the process of movement of the able-bodied, healthy population, from one county to another, left a great excess of lunatics in the districts from which such emigration took place. But a further comparison of the commissioners' and registrar's reports showed that this would not be an entirely correct inference. With regard to the classifications of insanity he had selected the reports of fifteen asylums: five of counties chiefly agricultural, viz., Cumberland and Westmoreland, Wilts, Worcester, Somerset, and Salop; five urban, viz., Newcastle, Liverpool, Birmingham, Bristol, and Surrey; and five with a considerable mixture of each element, viz., Glamorgan, Stafford, Durham, Sussex, and Hants; and of the patients admitted for the five years beginning with 1866 he found that those suffering from congenital insanity were 5.6 per cent. in the rural, 3.2 per cent in the urban, and 4.8 per cent. in the mixed and urban. The insanity dating from birth was, therefore, far more frequent in the country than in towns. The epileptic insanity was in the whole 9.4 per cent. in the rural, 8.2 in the urban, and 5.6 in the mixed rural and urban. Thus the rural still predominated in the production of this kind of insanity; but on turning to general paralytic insanity its proportion was only 3.6 per cent. of the whole, while the urban stood at 9.4, and the rural-urban at 9.7. Puerperal insanity stood in the rural asylums at 3.6 per cent., 2.6 in the urban, and 3.9 in the rural-urban. Of the causes of insanity hereditary tendency stood first on the list. It acted both as predisposing and an exciting cause of malady. Next in order of importance stood intemperance, which acted as a direct exciting cause. The abuse of alcoholic stimulants might be the cause of almost all the varieties of insanity, but general paralysis was more frequently caused by it and by sexual excesses than by anything else. This quite explained the great preponderance of this disease in the asylums of the urban, mining, and manufacturing counties. It depended least on hereditary predisposition, too, of all the varieties of insanity arising *de novo* as the result of its exciting cause. The causes of insanity, when carefully looked into, were by no means most commonly mental shocks, disappointments in love, and distresses, as was generally supposed. Mental and moral causes that distinctly affected the mind were only one-third of the physical causes in the fifteen asy-

¹ Read before the British Medical Association.

lums he had mentioned. Is insanity increasing? was a question often asked now-a-days, and there was a decided popular belief that it was increasing very rapidly amongst us. However, taking all the facts which appeared to bear out an affirmative answer to this question, and contrasting them with the facts on the other side, he thought the conclusion might be arrived at, on very definite grounds, that insanity was really not increasing amongst us.

ART. 36.—*A Case of Hysterical Ischuria.*

Under the care of M. CHARCOT, of the Hospice de la Salpêtrière, Paris.

(*Gazette Médicale, Paris, No. 21, 1872.*)

"The patient was a woman who for more than ten years had been affected with hysterical attacks and various hysterical symptoms. In April, 1871, there occurred in this patient a remarkable diminution of the urinary excretion. For a long time M. Charcot remained sceptical: the recollection of celebrated cases in which deception had been finally found out (that of Supton for example) kept up his distrust. In order that the reality of the case should be placed beyond doubt he thought it necessary to order an observation, which was prolonged for some time and carried out with minute precautions. The woman was affected with contraction of all the limbs, which was absolute both when she was sleeping and when awake, and resisted chloroformization. She was therefore confined to her bed and could not make use of her limbs. She was, however, carefully watched by several female nurses. Still the quantity of urine which was withdrawn through a catheter (the woman was affected with complete retention of urine) never during several months exceeded twenty grammes daily; sometimes, indeed, for several days there was complete anuria.

"At the same time this woman vomited daily between one and two thousand grammes of fluid which contained urea. After a few months had passed the ischuria was followed by temporary polyuria, and the vomiting then ceased; it afterwards returned, and at the commencement of the present year there was again diminution of the urinary excretion, this time without anuria, but accompanied by vomiting, less abundant than it was during the previous stage. The following is the daily average calculated from the results of twelve days' observation during the months of March and April:—

Vomited fluid, 362 grammes, containing 2 grammes of urea.
Urine, 206 grammes, containing 3 grammes of urea.

"The woman never sweated; consequently the excretion of urea by the skin was insignificant. The feces were not analyzed; but as there was constant constipation it may be concluded that urea could not have been eliminated in very considerable quantities by the intestine. It may be asserted, then, that during several months this patient excreted daily but a few grammes of urea.

"Notwithstanding this anomalous state of things, the general health remained good. No symptoms were presented analogous to those which are observed in patients whose urinary excretion is insufficient. Moreover, the analysis of the blood made by Mr. Gréhaut demonstrated that the amount of urea was normal. It must be admitted, then, that in this patient, who, it may be stated, took very little food, the production of urea was much less considerable than in the normal condition.

"M. Charcot considered the question whether this singular ischuria could be due to spasm of the urethra, and, relying upon physiological data and on the results of the clinical observations of Dr. Roberts, of Manchester, answered this in the negative. For if the urethra be obstructed either by deligation, as was tried in an animal by Max Hermann, or by a calculus, as may occur in man, the urine at the same time that it is excreted less abundantly, becomes very watery, which did not occur in the present case. The unknown cause, then, of the ischuria in this woman resided in the kidneys.

"This case shows that hysterical ischuria, the occurrence of which has been too complacently admitted by certain old authors, has a real existence, and

that the well-known cases of deception ought not to cast disparagement on guaranteed observations. M. Charcot is inclined to think that certain forms of vomiting called hysterical met with in young women affected with ischuria may really be supplementary to the renal function. Rare pathological cases ought not to be merely baits for vain curiosity; when illumined by physiology they may explain common facts, an interpretation of which had been previously wanting because these were not sufficiently decided; in the same manner certain eccentric types assist naturalists in filling up certain gaps in the geological scale."

ART. 37.—*Cerebral Tumors Giving Rise to Convulsions and Paralysis.*

By JAMES BROADBENT, M.D., F.R.C.P., Physician to St. Mary's Hospital.

(*The Lancet*, June 22.)

At a meeting of the Clinical Society of London on May 24th, Dr. Broadbent related a case in which tumors in the occipital lobe and in the posterior ascending parietal convolution of the right hemisphere had given rise to convulsion and paralysis of the left half of the body. The patient, a bootmaker, aged sixty-five, was admitted into St. Mary's Hospital on October 15th, 1871. He had been in good health up to October 7th, when he had convulsive movements of the left arm; afterwards he had pain in the head; and on the day before his admission the entire left half of the body was violently convulsed, and he was sick, but never lost consciousness. The convulsions ceased in a few days, leaving the limbs completely paralyzed, and sensation was diminished. Afterwards he had painful nervous attacks in the left arm and leg, but they gradually recovered power, till on November 10th he had pains in the head, and torpor, gradually deepening into coma, came on. He regained consciousness, however, after the application of a blister to the forehead, and remained very weak, and the paralysis of the left limbs was almost complete. He died on November 30th. His mind was quite clear, except for a short time. The back of the eye could not be examined on account of opacities in the lens. Two gliomatous tumors were found; one about the size of a cobnut in the upper part of the second ascending parietal convolution of the right hemisphere, projecting from its surface; the other, about the size of a small orange, was embedded in the occipital lobe, not appearing on the surface at any point. Dr. Broadbent thought the tumor in the parietal convolution was probably the cause of the unilateral convulsion and paralysis. Interesting points in the case were—the short time during which the symptoms had existed, only seven weeks; the instant relief of stertor when the patient was turned on his side, as recommended by Mr. Bowles, of Folkestone; and the recovery from coma after the application of a blister to the forehead; the tumors of course remaining, and probably increasing.

ART. 38.—*Incomplete Hemiplegia of the Right Side, with Partial Aphasia.*

By J. LOOKHART CLARKE, M.D., F.R.S.

(*British Medical Journal*, June 15.)

The following case is placed on record by Dr. Clarke:—

"A lady who had come from the country to see her daughter found, in the course of a few days, that she was gradually losing the use of her right hand and arm. The first occasion on which she experienced this weakness was that one day, after beginning to write, she found herself unable to continue. Very shortly afterwards she found that she was losing power in the right leg, so that she had great difficulty in walking; she also felt a sensation of 'pins and needles' in the right hand, but not in the foot; at the same time she complained of great loss of memory. She was frequently quite unable to recollect many of the words she

wished to use; and sometimes she transposed her words or used wrong ones. Her articulation was very indistinct; but she could protrude her tongue and move it in any direction. There was a dull 'heavy' pain on the left parietal region of the head, with a sensation of 'creeping or drawing up' of the scalp, and some deafness of the left ear. There was no cardiac murmur, or any other sign of heart-disease.

"Her general health was much deranged. Her tongue was loaded; her breath offensive; her appetite was gone; and she complained of nausea and flatulence, with a sensation at the epigastrium 'as if something wanted to be removed.' Her skin was dirty-yellow; her bowels constipated; but her urine was clear and without albumen. She was ordered a mild asperient, a blister behind her left ear, and the following pills. R Hydrarg. subchlor gr. vj; ext. hyoscyam. ℞ijss. Ft. pil. xij. One to be taken night and morning.

"At the end of a week I saw her again, and found her decidedly improved. After two or three days the pills produced brisk purgation. She was ordered to repeat the blister and continue the pills. At the end of another week the improvement was still more marked. Her memory was much better, her articulation more distinct, her right arm stronger, and she could walk without much difficulty; but she still complained of dull pain, and 'drawing up' of the scalp on the left side of the head. The bowels had acted about twice daily, and the evacuations on passing caused a scalding sensation. The blister was repeated and the pills continued. At the end of the third week she was nearly well; all that she complained of was flatulency, and the creeping or drawing sensation in the scalp on the left side. Her skin had lost its previously dirty-yellow color and her appetite was keen. She was ordered to discontinue the pills, and to take some rhubarb, ammonia, and ether in peppermint water. A fortnight afterwards she returned to the country quite well."

ART. 39.—On Diseases of the Medulla Oblongata.¹

By M. BOURDON.

(*Archives Générales de Médecine*, Mai, 1872.)

The author, after having collected the cases hitherto published, adds to these a certain number of cases that occurred under his own observation. These cases are divided into three groups.

In the first group are ranged those cases in which the anatomical lesions involved the anterior region of the medulla. These consist, in the first place, of sections or lacerations caused by injury or spontaneous hemorrhage. The result is either sudden death or opposite hemiplegia; the hemiplegia, however, may be direct in cases where the lesion has a certain situation.

When the nervous elements have undergone degeneration, are partially destroyed, or are simply compressed, very diverse forms of disturbance of motility may be observed; sometimes there is chronic trembling, showing itself exclusively during voluntary movements, at other times a continuous rhythmical trembling, and at other times again intermittent contractions, convulsive spasms, or veritable epileptic crises. All these phenomena, however, have this in common, that they occupy the four limbs, the trunk, and the face; that they extend sometimes to the tongue, the velum palati, and even to the organs of respiration; and, finally, that they are accompanied by no disturbances of sensibility, of the senses, and of intelligence.

In those cases there is no interruption to the passage of the nervous influence, as in cases of solution of continuity; there is only incomplete or intermittent transmission of the motor excitations, or morbid irritation of the nervous elements.

Together with these observations are found three cases in which, though there was more or less complete destruction of both anterior pyramids and olivary bodies, no disorders of motility were manifested in the limbs.

¹ Communicated to the Académie de Médecine.

M. Bourdon explains the absence of these symptoms by statements from the works of Stilling and Lockhart Clarke, which have been verified by the iconographic researches of M. Duchenne. It is established at the present day, thanks to these anatomists, that the anterior pyramids are not, as was formerly supposed, the prolongations of the anterior columns of the cord, but that they are formed by the fibres which come from the central and posterior parts of the bulb. If it be considered that below the pyramids, and in the centre of the organ, there exist cells bound together by superior and inferior prolongations so as to form an uninterrupted vertical chain, and that there are also between these cells longitudinal nerve fibres which are very numerous at the sides of the medulla, where they represent the antero-lateral columns of the cord, one may understand that all these elements, if they have not undergone any morbid change, may serve to transmit motor excitations when the anterior parts of the medulla have been even completely destroyed, as in a case described by Velpeau.

In the second group M. Bourdon has collected all the cases in which the morbid changes were more central and approached the floor of the fourth ventricle. The anatomists quoted above have discovered in these regions small masses of cells forming the motor origins of the hypoglossal, spinal accessory, facial, and pneumogastric nerves. Any lesion attacking these nervous centres would cause functional disturbance of the organs placed under their influence. Indeed, according to the important microscopical researches of M. Charcot, atrophic degeneration of these cellular nuclei is the anatomical characteristic of labio-glosso-laryngeal paralysis.

M. Bourdon repeats the description of this lesion, which is still but little known, and then remarks that it occupies exclusively the nuclei of origin of several nerves which are associated for the accomplishing of certain functional actions, as the articulations of words, deglutition, and phonation. He points out that progressive degeneration from below upwards, and the successive appearance of the paralytic phenomena, lead him to presume, and to explain with M. Duchenne, that the lesion cannot exceed the limits of the pneumogastric without causing death by arrest of the respiration.

The author then shows that the collection of symptoms presented by labio-glosso-laryngeal paralysis may be due to other lesions than atrophy of the cells forming the nuclei of origin of the nerves of the medulla; such a lesion, for example, as softening, which may occur spontaneously, or under the influence of an obliteration of the vertebral arteries, as in two cases of embolism reported by M. Proust.

Tumors situated externally to the medulla or meningeal exudations may compress the organ and determine similar lesions. But in all these cases the course of the labio-glosso-laryngeal paralysis is not more regular; moreover, sooner or later paralysis occurs of nerves which are not ordinarily attacked in the affection described by M. Duchenne.

In the third group are placed those cases in which the posterior parts of the medulla were diseased. These parts represent the corresponding regions of the spinal cord, and lesions here may give rise to disturbances of sensibility and of co-ordination of movements.

In his researches on locomotor ataxie M. Bourdon was struck by the appearance, in the midst of the ordinary symptoms of the malady, of unexpected phenomena in the pharynx, larynx, and organs of respiration, when degeneration of the posterior columns of the cord had extended to the restiform bodies.

Dr. Feréol has made these phenomena, which he calls laryngo-bronchial, the subject of a very interesting work; he attributed them to a lesion of the medulla, but can record only one autopsy, that of the case of M. Cruveilhier, which M. Bourdon had previously reported as an example of sclerosis of the cord extending to the region of the medulla.

In dealing with the question of diagnosis, the author acknowledges that, though it is tolerably easy to make out the diseases of the central and posterior regions of the bulb, as their symptoms are very characteristic, it is not the same with affections of the anterior regions. As these include the nervous

elements charged with transmitting motor excitations from the brain to the organs of locomotion, one would naturally observe similar disorders of motility in the diseases of the cord, on the one hand, and in affections of the medulla oblongata and cerebral peduncles, on the other.

Now comes the differential diagnosis between diseases of the medulla and diseases of these different organs. With regard to the common symptoms belonging to morbid changes of the medulla, M. Bourdon observes that they are generally associated with paralysis of other nerves than those which spring from this organ, as, for example, the auditory, the sixth nerve, the trigeminal; one may also observe at the same time nystagmus, sometimes glycosuria, albuminuria, and frequently, according to M. Larcher, disorders in the intellectual faculties, all symptoms which do not pertain to diseases of the medulla.

Where the anatomical morbid changes involve the cerebral peduncles, the longitudinal bundles of which divide and separate, in order to reach their corresponding hemisphere, the disorders of movement take on a unilateral character, and one may find paralysis of the third nerve and visual disturbances, due either to extension of the lesion to the quadrigeminal tubercles, or to simple irritation of these organs.

M. Bourdon, in concluding, remarks that the paralysis of this or that encephalic nerve, when added to the symptoms that are common to several affections, is capable of casting much light upon the differential diagnosis. These nerves being connected at their origin at the superior part of the spinal axis from the inferior extremity of the medulla as far as the cerebral peduncles, their paralysis will indicate more or less exactly the point at which the anatomical lesion exists.

The olfactory and optic nerves are the sole exceptions, as these take origin from the cerebrum; so paralysis of these nerves has not been noted in any of the cases included in M. Bourdon's memoir.

From this study the author would conclude that though lesions of the anterior portions of the medulla oblongata may not manifest themselves by symptoms sufficiently characteristic for the purpose of diagnosis, and though one is obliged, in order to establish the diagnosis, to rely upon other considerations beyond these symptoms; on the other hand, morbid changes in the central and posterior parts of this organ give rise to symptoms which are sufficiently pathognomonic to enable one to diagnose them with almost complete certainty.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 40.—*Muriate of Ammonia in Bronchitis, Catarrhal Pneumonia, etc.*

By H. C. WOOD, Jun., M.D., Philadelphia.

(*New Remedies*, April, 1872.)

In obstinate acute bronchitis, after the first intense stage; in catarrhal pneumonia, both of children and adults; in bronchorrhœa, and also in ordinary chronic bronchitis, Dr. Wood has obtained more apparent good from the use of muriate of ammonia than any other remedy. The best formula for giving the muriate with which he is acquainted is as follows: \mathcal{R} Ammoniae muriat. $\mathfrak{z}\text{ij}$; ext. glycyrrhiz. $\mathfrak{z}\text{j}$; mucil. acaciæ, aquæ, \mathfrak{ss} $\mathfrak{f}\mathfrak{z}\text{ij}$. M. S. Tablespoonful for an adult every two hours; teaspoonful for a child a year old every three hours.

When patients object to the mixture of sweet and salt, the following is to be preferred: \mathcal{R} Ammoniae muriat. $\mathfrak{z}\text{ij}$; aquæ, $\mathfrak{f}\mathfrak{z}\text{vj}$. Dose as before.

When the cough is very annoying $\frac{1}{4}$ of a grain of sulphate of morphia, or 10 to 15 minims of tincture of hyoscyamus, may be added to each dose.

In bronchorrhœa the following may at the same time be used by inhalation twice or thrice daily. Take of Sat. solution of alum, $\mathfrak{z}\text{vj}$; tr. hyoscyamus, $\mathfrak{z}\text{ss}$. M.

ART. 41.—Carbolic Acid Inhalations in Chronic Bronchitis.

By JOHN A. LIDELL, M.D.

(New York Medical Record, July 1.)

In a bad case of chronic bronchitis—a case in which there was strongly marked bronchiectasis on both sides, harassing cough both by day and night, profuse muco-purulent secretion that oftentimes was very offensive in smell, and emaciation with other general signs of bronchital phthisis—the writer has recently administered carbolic acid by inhalation, and made the patient comfortable by so doing, when every other palliative had failed.

At first it was given in the vapor of hot or warm water; but, after a short trial, these inhalations were discontinued, because they made the patient perspire too much. Then it was administered in the form of spray with Godman and Shurtleff's atomizing apparatus No. 5, and the result was gratifying in every respect. The preparation which was used mostly consisted of the crystallized acid dissolved in water in the ratio of one grain of the former to one ounce of the latter, that is 1 part of the acid to 480 parts of water. Trials were also made with a solution as weak as 1 part to 600, on the one hand, and as strong as 1 part in 300, on the other, but those having a strength of 1 part to 450 or 480 answered best. The patient was made to breathe or inhale the spray with deep inspirations, from five to ten minutes at a sitting, unless a feeling of drowsiness were sooner produced, once a day usually; twice a day, however, when the expectoration was very profuse or offensive in smell.

ART. 42.—A Remedy for Catarrh.

By E. BRAND, M.D.

(Wiener Med. Wochenschrift, June 15, 1872.)

Dr. E. Brand speaks in terms of recommendation of the following formula for an anticatarrhal olfactory, prescribed by Dr. Hagner; R Carbolic acid, 5 parts; rectified spirits of wine, 15 parts; strong solution of ammonia, 5 parts; distilled water, 10 parts. The mixture is kept in a stoppered dark glass bottle. When a catarrh is commencing a few drops are placed on three or four layers of blotting or filtering paper; the patient, holding this in his hand and closing his eyes, inhales deeply from it as long as any smell is perceptible. The effect of the treatment is to cut short the acute stage of the cold, to prevent the occurrence of subsequent coryza and bronchial and laryngeal catarrh, while all troublesome symptoms are rendered much milder. The remedy should be applied every two hours.

ART. 43.—Treatment of Diphtheritic Croup.

By F. W. BARTLETT, M.D.

(Buffalo Medical and Surgical Journal, and The Medical Record, July 15.)

In a paper on "Diphtheritic Croup and its Treatment" read before the Buffalo Medical Association, by Dr. Bartlett, several cases of diphtheritic croup are detailed, in which a small blister over the nucha, and common salt dried and powdered, blown by the aid of a tin tube into the fauces, were of great service to the patients in relieving the croupal distress. It is important not to heal the blister by any application. Let it heal in its own way. If a blister is to be applied it should be at the earliest possible stage of the malady, so as to arrest, if practicable, the initiatory morbid changes in the mucous membrane of the larynx and the trachea. In later stages of the disease it is far less likely to succeed, and if successful, the respiration and voice particularly are much more slowly restored. It is to prevent suffocation, that the trial of the revulsive and eliminating plan is urged.

ART. 44.—*On the Bending of the Ribs in Forced Extirpation.*¹

By A. RANSOME, M.D.

(Medical Times and Gazette, August 24.)

The author called attention to the great extent of the forward motion of the ends of the upper ribs during forced respiration. This fact has been ascribed to the angular upward movement of the ribs from an oblique to a more horizontal position. That this explanation does not suffice was proved (1) by reference to the normal angles made by the ribs with the spine, (2) by a comparison between the proportions of the upward to the forward movement of the ribs, and (3) by the varying relations between the three dimensions of this motion. It was shown that a portion of this forward push is due to the inbending of the ribs during the forced expiration preceding inspiration—(1) By actual diametric measurements with callipers, (2) by the large proportionate motion of the more flexible upper ribs, (3) by noting the extent of this movement in women and children, and its diminution as age advances, and (4) by several pathological facts. The bearing of the subject upon practical medicine was briefly indicated.

ART. 45.—*On Thoracentesis for Empyema in Infants.*

By M. ROGER.

(Archives Générales de Médecine, Août, 1872.)

The following remarks were made in the course of a discussion on thoracentesis and empyema, held by the Academy of Medicine, Paris:—

1. In acute cases, if the effusion be abundant, and if serious general phenomena persist without amendment, one ought to operate without delay; that is to say, as soon as one has reasons for suspecting the formation of pus.

The surgeon should at first make one or two punctures with the aspirator, followed or not by washing out of the pleura. If the effusion is slowly produced, and in small quantities, recourse may be had to the employment of the same means. But if the collection accumulate in considerable quantities, the surgeon ought not to wait, but should establish a pleuro-cutaneous fistula with continuous flow. For this purpose, the best proceeding is to place a silver canula in the thoracic wall; through this canula one may wash out the pleura more or less repeatedly, until the retraction of the abscess and the reduction of the discharge to a small quantity of serous fluid indicate the removal of the apparatus.

2. The course to pursue in cases of chronic empyema is much like that just described for the treatment of acute empyema. However, when the purulent effusion is of old date, the modifications of structure presented by the pleura are too profound to justify one in expecting to cure the infants with one or two operations of thoracentesis, even when followed by injections containing iodine. It will, consequently, be necessary to determine very speedily to introduce a canula and retain it.

3. If, in the course of an acute or chronic empyema spontaneously terminated by formation of a vomica, symptoms of suppuration should continue, if the evacuation of pus be difficult, or if pyo-pneumothorax should occur, it will be better after a short period of expectation to establish a pleuro-cutaneous fistula. With this object in view, one would have recourse either to puncture, followed by the insertion and retention of a canula, or even by incision of the wall of the thorax.

The surgeon ought to have recourse to a similar incision if, by reason of persistent physical signs and of incomplete evacuation of the fluids contained in

¹ Read before the British Medical Association.

the pleura, he should suspect the presence of thick products (false membranes or hydatid cysts) which cannot be withdrawn through the metallic canula.

4. If it should have been concluded from the collection of symptoms that the pleurisy is of a tuberculous origin, this would be no reason for inaction; on the contrary, it would be necessary to operate, for, a positive diagnosis being in many cases almost impossible, one ought not to neglect a chance of cure, however slight it may be. Even in cases of certainty, the medical attendant has no right to remain inactive. If the dyspnoea be very great, and if the general symptoms be aggravated, intervention may be attended with advantage, since the fatal termination is imminent from the very fact of the purulent pleurisy being left to nature. Evacuation of the effusion is always favorable to the patient, and the suppression of so grave a complication would at least retard a fatal issue.

In a second portion, M. Roger studies the indications for thoracentesis in serous effusions of the pleura, and he shows, by cases, that, under these circumstances, puncture of the chest is never, so to speak, a necessary operation with infants. Indeed, his own cases, as well as those of M. Barthéz, enable M. Roger to establish, as an almost absolute rule, that recovery from simple non-purulent pleurisy is constant. This is owing to the fact that one never observes in infants either sudden death from syncope or simple chronic pleurisy.

ART. 46.—*Treatment of Pleurisy.*

By FRANCIS E. ANSTIE, M.D., F.R.C.P.

(*A System of Medicine*, vol. iii., 1871, 8vo. pp. 968.)

"The treatment of pleurisy," Dr. Anstie writes, "is naturally divided into that of the primary and that of the secondary forms.

"Primary pleurisy, of a well-marked type, is perhaps as little the fit subject of treatment by drugs or other artificial means, in its acute stages, as any disease that could be named, or rather, the drugs needed are very few, and are all of the stimulant-narcotic class. For the vast majority of patients, indeed, the only drug which is of considerable value is opium in one or other form, until the febrile period is passed over, when preparations of iron sometimes become very useful. I do not make this statement without having carefully watched and considered the effects of a number of internal remedies which are still used as a matter of course, and, indeed, considered essential by various physicians of good repute.

"To take, first, the case of primary simple fibrinogenic pleurisy, one may at once decide against all heroic remedies, since evidence abounds on all sides to show that the disease is a perfectly harmless one, unless the patient has strong tendencies to constitutional disease, and that it tends always to recovery. In fact, one has no need to adopt any treatment whatever beyond keeping the patient in one room, free from draughts, and in the posture which he finds easiest to him; feeding him steadily with nutritious food of the kind best adapted to the degree of fever and digestive derangement that may happen to be present; forbidding unnecessary movements and talking; applying hot poultices to the side, and administering an occasional hypodermic injection of $\frac{1}{4}$ or $\frac{1}{2}$ grain morphia to keep the pain in check. Acetate of ammonia, in doses just short of those which produce decided sweating, will sometimes greatly relieve the pain and distress even without the aid of opium, and is at all times a harmless, even if an unnecessary medicament. Recently, the acetate of methylamine (a base which exists in roasted coffee, owing to the transformation by heat of a part of the caffeine) has been proposed, and apparently used with good effect, by Professor Béhier, of Paris. There is usually no necessity for alcohol, and it had better be avoided. After some six or seven days in bed, the patient will probably be well able to sit up; and the only thing necessary to forbid him is *movement*. He should sit perfectly still. If any anæmia remains, the tincture of muriate of iron in twenty-minim doses, thrice daily, is

advisable as a tonic; and, on the whole, a very few days ought to see the patient completely fit to resume his ordinary work.

"In pleurisy evidently of considerable extent, and with a notable amount of *serous effusion*, the ideal of treatment should be still, as much as may be, that given above. It is now very decidedly proved that the old heroic methods of attacking severe pleurisy ought to be abandoned. In the first place, as to general bloodletting. I have witnessed enough of this treatment to be sure of two things: firstly, that the older physicians were perfectly right in the statement that it usually relieved *pain* with great promptitude; and secondly, that the relief thus given is not in the least degree superior to that afforded by hypodermic injection of morphia, except that it operates more quickly, perhaps by some five minutes, than the latter. As to bleeding checking the tendency to effusion, *that* is to me quite incredible. No such effect has been witnessed in either of the five cases of phlebotomy for acute pleurisy that I have watched at various times; and I observe that Dr. Aitken, while still adhering to the use of this remedy, recommends us not to be discouraged by the fact that the effusion may go on increasing after the bleeding, and the patient also may feel very depressed. It is true, he says, that after a certain time absorption will set in, and that it will then go on more rapidly and well than if the patient had not been bled. I cannot at all imagine on what evidence this last opinion is based; certainly it utterly conflicts with the facts of my own experience; and though I have personally seen little of the actual treatment of pleurisy by bleeding, I have examined a pretty large number of persons whose past history included one or more pleuritic attacks which had been so treated. The accounts given by such persons show a melancholy uniformity: long weeks and months of suffering from the presence of effusion in the chest, occasionally leading (through empyema) directly into active and rapidly fatal tuberculosis, nearly always slow and imperfect recovery, with diminished vital energy and especial weakness of the chest, and only in the rarest cases a tolerably prompt and complete recovery. The homœopathists have made their fortunes in no small degree by their 'treatment' of pleurisy, which has had the one sole merit of being purely negative, and avoiding all destructive agencies.

"A much better case, no doubt, might be made out on behalf of local bloodletting. Cupping ought never to be mentioned, being actually barbarous in the suffering it inflicts on a pleuritic patient. But leeches unquestionably do relieve pain very often in a speedy and effectual manner, and I only know of one objection to their use—viz., that morphia will relieve the pain with even greater certainty. During five years of dispensary practice I determinedly abstained from the use of leeches in pleurisy, and found morphia, even given by the mouth, a perfectly satisfactory substitute. But since the use of the hypodermic syringe has become more common, the advantages of morphia are far more manifest; and I have no doubt, personally, that leeches are now unnecessary. The first act of the physician in treating a pleuritic patient in the agony of the early acute stage should be to inject $\frac{1}{4}$ or $\frac{1}{2}$ grain of acetate of morphia (for an adult) under the skin, and to envelop the painful side in a hot poultice. For a child under two years, $\frac{1}{16}$ or $\frac{1}{8}$ grain is enough. Such doses as these may be repeated every four hours, if necessary; but in fact it is seldom that more than two or three doses are needed in the first twenty-four hours, and afterwards one dose in each twenty-four hours is generally enough.

"I would insist strongly on the advantages, indirect as well as direct, of subcutaneous over gastric administration of opiates; in a direct way, the former is superior, as acting much more rapidly; in an indirect way, because it so much less disturbs the functions of the alimentary canal.

"Of the treatment by mercury, I can express only the most unqualified disapproval. I have watched many cases of pleurisy in which, according to the rule formerly acknowledged, mercury was given, either to complete or partial salivation, as soon as the signs of effusion became unequivocal, and I can truly say that these cases, even when they were not further complicated by the depressing influence of bloodletting, contrasted very unfavorably with the results of a treatment which entirely abjures mercury for any purpose except that of an occasional purgative. I am glad to cite, on this point, the late Dr.

Hillier, who says (in his Monograph on Children's Diseases) that from experience he had been led to abandon mercurial treatment for pleurisy; and I believe that, whatever some of the class-books may still say, mercury is practically given up by the best physicians in this country, not only in children's pleurisy, but in that of adults. It seems the general opinion among those with whom I have conversed, that the absorptive action with which mercury used to be universally credited is more than doubtful in the case of pleuritic effusions, whether fibrinous or serous. And certainly, if it fails to do good, mercury may do very sensible harm. I have seen cases in which it apparently produced the most decided anæmia—at least there was scarcely any other possible cause for the latter condition—which set in rapidly after the first occurrence of ptyalism.

"The treatment by so-called 'counter-irritants,' as pursued by many physicians, is no less repugnant to me than is that by mercury or bleeding. Let me make two admissions. In the first place, the mere application of a mild mustard plaster, or, still better, of a hot poultice, or epithem, undoubtedly may give some ease; perhaps even arrest incipient inflammation; and the use of small flying blisters, in the limited attacks of pleurisy which are so common in phthisis, undoubtedly appears to give relief in many cases. But the use of large blisters, especially if kept open, appears to me both useless and often prejudicial. I shall not repeat here what I have said at length elsewhere; suffice it to say that I adhere to my opinion, already stated, which is the same as that previously announced by many of the greatest masters of practical medicine in the present century.

"The practice of painting the chest-wall with iodine, though not open to the same positive objections as apply to blistering, has never, in my experience, yielded any very positive results. It is, I believe, very inferior in utility to the application of the simple adhesive, or the Burgundy pitch, plaster, to afford mechanical support; this really does sometimes appear to favor absorption of the fluid, and it usually gives much comfort.

"The employment of diuretics to promote absorption is another point on which I find myself at issue with the opinions of many. The only drug which has appeared to me, in some cases, directly to promote absorption by means of increased diuresis, is iodide of potassium, in quantities amounting from 6 to 18 grains daily, according to the age of the patient. I think it is worth trial for two or three days (along with the external use of iodine) when effusion comes to a standstill.

"The medicine, however, which stands quite alone in its power to promote the process of absorption is *iron*—best given in the form of *muriated tincture*; and in all cases where there is marked anæmia it should be exclusively employed from the moment when the necessity for administering opium ceases."

After adverting to some matters of minor importance, Dr. Anstie alludes to the change of opinion which the writings of Trousseau, Bowditch, and others have produced during the past few years. With regard to paracentesis thoracis Dr. Anstie says:—

"It can hardly be doubted that the whole feeling about the dangerousness of paracentesis rested upon the use of clumsy and imperfect means of operation, and on exaggerated ideas of the evil effects of admitting a small quantity of air into the pleural sac. With regard to the first point, we are entitled to say that it is quite possible so to operate as to insure that no damage will be done to viscera, and that no more than a trifling quantity of air will be admitted to the pleura. And upon the second point we may certainly now assure ourselves that there is no reason to fear serious mischief from the admission of a limited quantity of air if the opening made in the operation be afterwards properly closed. It is even unnecessary, as Dr. Bowditch's large experience has shown, to make the opening valvular. But the most important advance that has been made is the invention of apparatus which allows of the operation being made either simply exploratory, or carried on at once to evacuation of the fluid. With the instrument either of Bowditch or Dieulafoy we introduce a very small trocar and canula guarded with a tap, and by attaching a suction-syringe and opening the tap, we withdraw a small amount of fluid, the exact nature of which

we can identify: if we elect to continue the evacuation, we can do so with the aid of the syringe; if, on the other hand, no fluid can be obtained, the guard-tap has prevented the entrance of air, and we can withdraw the canula and close the wound without having done the least mischief. By the use of the small canula we are able to operate without risk, because, in the case of an entirely mistaken diagnosis, we should have done no damage, even though we had perforated a consolidated lung, a solid tumor, or an intercostal artery. The suction power of the vacuum-syringe will enable even thick fluid, such as somewhat concentrated pus, to be withdrawn through the smaller-sized canula; but the puncture is such a trifle that, in case of our desiring a larger tube, the smaller one can be withdrawn, the finger being pressed on the spot as it emerges, and the more capacious canula introduced at the same place.

"The site of puncture should be selected in ordinary cases according to Bowditch's rules: Find the inferior limit of the sound lung behind, and tap two inches higher than this on the pleuritic side, at a point in a line let fall perpendicularly from the angle of the scapula. Push in the intercostal space here with the point of the finger, and plunge the trocar quickly in at the depressed part: be sure to puncture rapidly and to a sufficient depth, or you may be balked by the false membranes occluding the canula.

"It will sometimes happen that with the greatest care and trouble we are unable to get a flow of fluid at the point where we first puncture; it is then our duty to try elsewhere, for our failure may be owing to unusual thickness of the false membranes in the lowest inch or two of the pleural cavity. We thereupon repeat the puncture a little higher up, and further towards the axillary line, and here we perhaps find fluid: at any rate, no harm has been done by the two punctures.

"The circumstances under which paracentesis ought to be performed for pleurisy are the following:—

"1. In all cases of pleurisy, at whatever date, where the fluid is so copious as to fill one pleura, and begins to compress the lung of the other side; for in all such cases there is the possibility of sudden and fatal orthopnoea.

"2. In all cases of double pleurisy when the total fluid may be said to occupy a space equal to half the united dimensions of the two pleural cavities.

"3. In all cases where, the effusion being large, there have been one or more fits of orthopnoea.

"4. In all cases where the contained fluid can be suspected to be pus, an exploratory puncture must be made; if purulent, the fluid must be let out.

"5. In all cases where a pleuritic effusion, occupying as much as half of one pleural cavity, has existed so long as one month, and shows no sign of progressive absorption.

"The limits of the operation form an important question. Formerly one great error seems to have been, that operators were often too anxious to extract the whole of the fluid; in this way they often protracted the operation to a mischievous extent, and gave abundant opportunity for that very entrance of air to the pleura which was theoretically so much to be dreaded. Among the latest writers, Bowditch and Murchison have most authoritatively shown that it is neither necessary nor useful to extract the whole of the fluid, and that the removal of just so much as may be necessary to relieve substantially the mechanical distress, will in most cases give the necessary spur to the natural process of absorption, by means of which the rest of the fluid will be taken up. One rule seems absolute; the withdrawal of fluid must be arrested the moment that the patient begins to complain of constricting pain in the chest or epigastrium. Even in the case of purulent effusion there can be little doubt that absorption often takes place, though unquestionably there is here a danger that concrete cheesy matter may be left unabsorbed, and under unfavorable circumstances may become the starting-point of tubercular infection.

* * * * *

"It remains to say a few words on the treatment of those least fortunate cases where, from one cause or another, a purulent fluid forms and re-forms, with great rapidity after each tapping, and perhaps becomes putrid and

stinking. Where it is only a question of excessive purulent secretion, simple washing out of the pleura with warm water after tapping may possibly change the action of the membrane, but in most cases it will be necessary to keep the canula in, cork it up, and daily allow the exit of pus, and then wash out the cavity. But in my opinion, if it comes to this, the better plan by far is the drainage-tube. A needle-eyed probe, being introduced through the original opening, is carried through to the opposite chest-walls, and is there made to protrude the muscle and skin of an intercostal space, the finger outside carefully feeling for it. The probe is cut down upon, forced out through the chest-wall, and threaded with a strong thread; this is then drawn back through the chest till it comes out at the original opening. The thread is fastened to an India-rubber drainage-tube (pierced with openings in the manner devised by Chassaignac), and the latter is then drawn through the chest till it issues through both orifices. Nothing more then remains but to tie the ends of the tube lightly together."

ART. 47.—*Treatment of Pneumonia.*

By Sir THOMAS WATSON, Bart., M.D., F.R.S.

(*Principles and Practice of Physic*, 5th edit., 2 vols., 8vo. pp. 910 and 1070. London. 1871.)

In the treatment of pneumonia Sir Thomas writes:—

"Years have passed by since I have met with any instance of that disease which has required phlebotomy. In this special case, not only must you decline to be guided by the mere name of the disorder, but you must not be guided even by the *thing, pneumonia itself*, as disclosed by the evidence of auscultation. The general or constitutional symptoms must direct the treatment, while the local signs identify the disease. The question must always be, what detail of treatment will soonest bring this particular case to its best possible issue?"

"When, with the physical evidence of pulmonary inflammation, you find your patient breathing with extreme labor and difficulty, and you notice at the same time the tokens of enormous venous congestion, the veins of the head and neck turgid with dark blood, while the pulse is very feeble as well as frequent, you may conclude that the right side of his heart is so distended with blood as to be unable to contract, and you must take blood by venesection, with the chance of so saving your patient's life, and with the certainty of prolonging it, and of giving immediate relief to his exceeding anguish. But I do not advise you to push the bleeding beyond the advent of this manifest relief. I believe this to be the only accident of pneumonia that requires or warrants a recourse to general blood-letting.

"Again, if at the outset of the illness there is sharp pain in the side, announcing the presence of *pleuro-pneumonia*, you will do well, especially if the patient's health have been previously sound, to apply cupping-glasses or leeches over the painful spot: and you need have no dread, in my opinion, of ultimately damaging him by this local diversion and removal of blood.

"Diaphoretic medicines are, in all cases, proper and serviceable: and in the severer forms of pneumonia I would recommend you to adopt the treatment by *antimony*, as directed by the Italian physician Rasori; but I would limit and regulate that treatment, in accordance with the rules laid down by Dr. William Gairdner in his instructive volume on *Clinical Medicine*. They are simply these: to give the antimonium tartaratum in doses varying from one-twentieth of a grain to one grain every hour, withdrawing or suspending the remedy as soon as it produces any distressing effect on the patient—continued vomiting, purging, or great general depression: withdrawing it also as soon as the fever appears to have received a decided check. I said *continued* vomiting, because a single act of vomiting may be beneficial. After that the stomach is generally found to *tolerate* the drug, as our Continental brethren express it.

"I should add that this antimonial treatment is chiefly useful and fit for the

very early stage of the disease, when the skin is hot and dry, and the expectoration scanty and viscid.

"It will be right in the commencement of the disease to administer for once a mercurial purgative—two or three grains of calomel, for instance, with ten or twelve of rhubarb. But multiplied experience has at length wrought a wide-spread belief that to give mercury in this disorder, with the view of exciting pyalism, is not commendable practice.

"Among what may be called the routine remedies of pneumonia we must rank counter-irritation by means of blisters; but they are often applied to the chest much too early in such cases. In the outset, while there is yet considerable fever present, they add to the irritation and distress the patient, and tend to aggravate the existing inflammation. But when the fever is no longer high and the skin no longer burning, though the expectoration is still difficult, the dyspnoea considerable, and a sensation of pain, or tightness, or oppression is experienced in the chest, then a large blister is often productive of very sensible benefit; but it *should be* a large one. The patient should have a waist-coat almost, or at any rate a breast-plate, of blistering-plaster. I have never seen such good effects from placing blisters upon distant parts in this disease, upon the thighs or arms for instance, as would lead me to plague the patient with them in those situations.

"What I have said of blisters applies to the other methods of stimulating the surface. Take a case in illustration. A worthy physician, a friend of mine, suffering in his own person an attack of pleuro-pneumonia, was persuaded, against his better judgment, to lay a mustard poultice to his painful side. The pain, as soon as the mustard began to tell, was increased to a pitch that was scarcely endurable. He had the mustard removed, and the part (after it had been washed) covered with leeches; with the speedy effect of bringing ease to his suffering, as decided as had been its previous aggravation. 'The proper appliance under such circumstances is a soft and warm *linseed-poultice*.'"

ART. 48.—*Brandy in Pleuro-Pneumonia.*

By J. M. WINN, M.D.

(*Medical Times and Gazette*, September 7.)

Dr. Winn thinks in spite of all that has been said against the use of alcohol in disease, that the following case affords a striking instance of its utility in some forms of pleuro-pneumonia:—

"On the 21st instant I was requested to see, in consultation, Miss——, aged twenty-one, a dressmaker. She is a delicate girl, but fairly nourished. She was suddenly seized, after exposure to cold, about a fortnight before I saw her, with pleuro-pneumonia of the right lung. A few days after the attack she spat up prune-colored expectoration. I found her in an extremely prostrate condition—breathing labored, pulse exceedingly small and rapid, skin burning hot; complete dulness of the lower lobe of the right lung, with absence of respiratory murmur; tongue clean; bowels, which had been much relaxed, were then quiet. She was taking eight ounces of port wine daily. We ordered a small blister to the side, a dessert-spoonful of brandy every four hours, in addition to the wine, and beef-tea or milk every two hours. On the following day the improvement was very striking—pulse full, skin moist, and breathing less frequent. When I last saw her there was every prospect of her recovery; her appetite was excellent, breathing tranquil, expectoration copious and mucous. There was still some dulness of the right lung, and a slight *frottement* over the same spot.

"It is a singular fact that her father died of pleuro-pneumonia, and that her brother had a similar attack at twenty-one, her present age."

Dr. Winn thinks that the strongest opponent to the use of alcohol must admit its virtue in the above case.

ART. 49.—*Consumption and Contagion.*

By RICHARD PAYNE COTTON, M.D., F.R.C.P., Senior Physician to the Hospital for Consumption, etc., Brompton.

(*British Medical Journal*, August 31.)

There is no question in connection with phthisis of more practical interest and importance than that of contagion; and there is none other, perhaps, about which there exists so great a diversity of opinion. Practical evidence is of far more value than anything speculative; and as a great experiment upon the zymotic character of phthisis has long been going on at the Consumption Hospital, Dr. Cotton briefly gives the results.

"The Consumption Hospital was opened in the year 1846, with ninety beds. Ten years later it was completed; and since that time two hundred beds have been constantly occupied. We have lost, during this long period, only one nurse from phthisis; and this was a poor creature whose husband had deserted her, and who had long endured, from other causes also, considerable mental anxiety and physical exhaustion. On the other hand, the services of the nurses generally have been unusually prolonged; and I can myself testify to their general health being, as a rule, remarkably good. Of those *now resident*, two have been at duty in the hospital seventeen years; one has resided thirteen years; one, eleven years; two, ten years; two, nine years; one, seven years; one, four years; two, three years; and four, two years. The two oldest nurses have lately died of old age and general decay, after having long been superannuated; each of these had resided in the hospital for upwards of twenty years.

"Of the gallery maids, whose duty it is to be much within the wards in sweeping and scrubbing the floors, only one has been known to have been affected with phthisis; whilst it is obvious that, during so long a period, the number of persons thus employed must have been considerable.

"Our engineer has seen eighteen years' duty within the hospital, and he is now in good health.

"We have had, at different times, three attendants in the *post-mortem* room. The first of these is still living, but in infirm health, the result of intemperance; the second left with spinal disease; the third has been in his office for nearly four years and is in good health.

"Of the dispensers, one who kept to his post for above ten years, is living and well; three who have held office in the dispensary since the year 1867 are also well; and the present senior dispenser has been with us for ten years. Many others have been in this department since the opening of the hospital, but only one has been known to have been consumptive.

"The resident clinical assistants of whom we are able to obtain reliable information amount to seventy-eight in number. Three of these are said to be phthisical; but only one has been known to have died of phthisis. This gentleman I knew intimately; he was always of consumptive appearance, and one of his sisters had died of phthisis.

"Our resident medical officer, Mr. Edwards, to whom I am indebted for the statistics I am now giving, has held office for more than twenty-one years; and all those who know him can testify both to his continued health and his undiminished energy and usefulness. The present matron has also been in her office for more than twenty-one years, during which long period her health has been excellent.

"The present secretary has been at his post for fifteen years; and his only predecessor, who is still alive and well, had held the same office for sixteen years. The assistant-secretary has been at his duties within the hospital for eighteen years; and a clerk—whose office it is to register the out-patients, and who must, on that account, be exposed to an unusually great extent to phthisical contagion, did such exist—has been at his work for five years. I am happy to add that all of the above are now in excellent health.

"The present chaplain has been with us for twenty-two years; and his two predecessors are still living. Happily all of them are well.

"Of the staff of physicians and assistant-physicians—nineteen in number—one only has been affected with phthisis, and he was a young man of delicate and decidedly consumptive aspect. The period of office which some of us have had is unusually long. Of the present physicians, two have been upon the staff twenty-four years each; one for seventeen years; one for thirteen years; one for nine years, and one for five years. The late senior physician, who resigned only three years ago, had been attached to the hospital, and in constant work there, from its very foundation. Two of the former physicians who resigned their appointments, and subsequently died of disease quite distinct from phthisis, had held office in the hospital for fifteen and nineteen years respectively.

"With the above facts before us, must it not appear to all believers in the doctrine of phthisis originating in a special and contagious poison, that a residence in the Consumptive Hospital and long-continued working in its wards is a very good way indeed *not to catch the disease?*"

ART. 50.—*Caseous Infiltration, or Pneumonic Phthisis.*

By WALTER HAYLE WALSH, M.D.

(*Treatise on the Diseases of the Lungs; including the Principles of Physical Diagnosis and Notes on Climate.* Fourth edition, revised and much enlarged, pp. 656. London, 1871.)

The subject of caseous infiltration, which was not mentioned in former editions, and that of syphilitic disease of the lung, which was very briefly discussed, are thus described in the present one:—

"CASEOUS INFILTRATION, OR 'PNEUMONIC PHTHISIS.'

"Caseous infiltration or caseous pneumonia represents the various forms of 'tuberculous infiltration' of Laennec, gelatiniform, gray and yellow. Such infiltration may occur as an irritative result of the development of the milary granulation ('Tuberculo-pneumoniatic phthisis' of Addison) and so assume the guise of a further evolution of this; or it may have an independent existence or, as long ago pointed out by Louis, it may entail the formation of milary tubercle within its own area.

"Under all three conditions the course of the disease may be acute or chronic; if of acute course, the early likeness is to asthenic pneumonia, the eventual to rapidly destructive phthisis; if of chronic course, to ordinary chronic milary phthisis.

"ACUTE CASEOUS INFILTRATION.

"*Symptoms.*—The local symptoms are those of pneumonia of asthenic type; there is no single distinctive unit among them. The assertion that prune-juice sputa are specially frequent is, if I may trust my experience, a grave error. But the pyrexia is less marked, the temperature less raised, and the respiration less frequent than in sthenic consolidation.

"Systemic sympathy (except that signified by general adynamia) is, curiously enough, sometimes less obvious than in active inflammatory disease of the lung. There may be very little delirium. The bowels may be extremely constipated, though, as shown after death, the intestines are ulcerated. Deficiency of urinary chlorides habitually occurs.

"By-and-by, say from the fourteenth to the twentieth day, breakage of the infiltrated tissue sets in; the symptoms then become identical with those of acute tuberculization.

"*Physical Signs.*—Whatever these signs be, their original site is basic, or central, as a rule; eventually they travel upwards.

"Inspection discloses nothing special; the measured semicircular width of

the affected side, especially if infiltration have occurred on an extensive scale, may be slightly increased; application of the hand may detect some increase in vocal vibration, and some deficiency of chest motion; but it is impossible to say in what part of the chest this deficiency may be most marked.

"The resonance under percussion is more or less impaired—at first in some limited points, subsequently over the surface pretty generally. Dulness may become extreme at the base; though to the last hour various spots may give resonance not positively abnormal. The quality may be markedly tubular in some places, independently of excavation: with cavity, even on a small scale, amphoric.

"The respiration, weak in some points, exaggerated in others, assumes bronchial or even faintly tubular quality over the most densely consolidated parts; but the highly marked, sniffling, metallic breathing of hepatized consolidation may be wanting, even where the entire lung is very closely infiltrated with softening tubercle—doubtless because the air is never so completely expressed from the vesicles in the latter as in the former case. I have known the breathing, at first distant, high-pitched as if hissed between the teeth, subsequently fall in pitch considerably. Bronchial rhonchi, dry and moist, of various sizes and abundance are heard; if the condensation be very dense, the bubbling rhonchi may acquire a ringing character. If excavations form, thin metallic echoing hollow rhonchus may be caught. The characters of the vocal resonance depend on the closeness and extent of consolidation; null, weak, or bronchophonic, but not snifflingly so, as in hepatization, it may be whisperingly pectoriloquous over the site of a small deep-seated excavation with intervening condensed and infiltrated texture.

"*Diagnosis.*—It is easy enough to distinguish this form of disease from *acute bronchitis*: the consolidation signs alone suffice.

"I have known such deadness of percussion sound and such deficiency of respiration and vocal resonance at the base that, were it not for the maintenance of vocal vibration and the graver constitutional aspect of the case, *pleuritic effusion* might be supposed to explain all.

"I know of no means by which acute consolidating infiltration, destined to liquify and disintegrate the lung, may be distinguished with surety at the outset from *ordinary sthenic pneumonia*. We may suspect, nay, even divine, on the basis of constitutional pravity; but we cannot prove; events must be waited for. The more true is this, that seemingly sthenic inflammation may exist at first, furnish its own signs in more or less perfection, its rusty sputa and perverted pulse-respiration ratio, and give place to acute caseation.

"*Acute primary cancerous infiltration* of the lung may destroy life in less than four months, and simulate acute caseous solidification; but that disease consolidates the lung less obviously, is attended with signs of tumor about the main bronchus (of the pressure class and others), often with peculiar hæmoptysis, severe local pain, and diminished width of the side, while, *per contra*, its pyrexia is greatly less marked than that of caseation.

"*Treatment.*—The treatment is obviously that of asthenic pneumonia. Whether in any instance such management has ever prevented otherwise imminent disintegration of tissue is of course unproven.

"CHRONIC CASEOUS INFILTRATION.

"Except in the fact that deposit and breakage take place more particularly at the base and middle height of the lung, there is nothing to distinguish this class of case from ordinary chronic phthisis. In local and general symptoms, as in physical signs, the pair are, in the present state of knowledge, clinically undistinguishable.

"SYPHILITIC DEPOSIT, OR SYPHILOMA.

"The lungs hold a well-defined place in the class of visceral sufferers from constitutional syphilis.

"Fibro-plastic material, identical in naked eye and in microscopical characters, as also in mode of development, with the gummata and exudative

infiltrations of tertiary syphilis in the subcutaneous and submucous tissues, the tongue, the liver, and the heart, appears in the lungs in the nodular and infiltrated forms. In either form the disease may be the sole morbid condition in the lung.

"Amyloid and lardaceous degenerations of various viscera are often associated with syphiloma.

"NODULAR DEPOSIT.

"These nodules, rounded in shape, yellowish-white in color, varying in size from a pea to a walnut, originally opaque, dry, hard, almost creaking under the scalpel, eventually soften down and undergo disintegration with elimination, and leave behind them excavations in the lung-tissue. They may form in any part of either organ, but affect a preference for the basis and periphery. In mode of formation they are rather lumpy infiltrations than true superadded tumors; the textural elements being found within their area. In the softened material there is much similarity to tubercle, but the microscope exhibits only broken up fibro-plastic cells and granular fat.

"*Clinical history.*—Several recorded cases show that, when small and unsoftened, these syphilomata, even though they be numerous, give rise to no symptoms; a fact in perfect accordance with what is known of cancerous nodules also. Even when they have attained a certain size, their discovery has been commonly reserved for post-mortem examination.

"As to physical signs, there can be none if the nodules be small, though their number be large; excess of pulmonary resonance would certainly not form a justifiable ground of their diagnosis.

"If softening and elimination occur, excavation signs must follow. But these will be less clearly defined than in tuberculous, caseous, or cancerous breakage, in consequence of the deficiency of notable hardening of issue round the excavated spots. I have not seen any case (nor do I know of any published story of the kind) in which I had clinically followed the excavating process, and found after death nothing but broken-up syphilomata in the lungs.

"INFILTRATED SYPHILITIC DEPOSIT.

"There is reason to believe that the diffused form of the disease is notably more common than the circumscribed.

"*Anatomical characters.*—As in non-diathetic cirrhosis, fibro-plastic substance or induration-matter infiltrates to a variable extent the inter-cell-spaces and the interlobular spaces, and replaces the actual pulmonary parenchyma. There seems to be nothing distinctive in the characters of the syphilitic variety of the product; and the connection, between the low quasi-inflammatory process producing it and syphilis, is only to be established by the antecedents of the individual and the coexistence of various positive results of tertiary syphilis. But this is equally true of the indisputable syphilitic formations, lingual, submucous, and subcutaneous. The infiltrated form, as well remarked by Dr. Wilks in his very thoughtful Essay, is the least characteristic of the two; but there can be no doubt it is greatly the more important clinically.

"*Clinical history.*—Syphilitic infiltration of the lung may, I think, be expected clinically to follow either of two widely different courses; it may undergo absorption, or it may soften and break up.

"The issue in cases of absorption seems exemplified by the following brief narrative: A gentleman, aged about twenty-seven, had chancre and suppurating bubo—subsequently ulcerated throat and squamous syphilide. Some months later a troublesome cough brought him under my notice; he had had no hæmoptysis; the expectoration, muco-purulent, was destitute of special character; there was no pyrexia; little, if any positive wasting; the aspect generally was not suggestive of tuberculous or other disintegrating lung-disease.

"The left side of the chest had all the physical attributes of health. On the right side high-pitched toneless dulness, not the least wooden in quality, suggestive of soft consolidation, reached from a shade below the clavicle to about

the fourth rib, almost joining on with the liver-dulness—it was not perceptible above the clavicle nor in the axilla, and was much less marked behind than in front. The respiration, high-pitched but weak, reached the ear unattended with dry or moist rhonchus.

"Evidently this consolidation was not tuberculous, nor caseous; its combined unilaterality and extended area stood as a fatal objection to either notion. Cancerous infiltration looked much more probable: for the solidity was at the usual side and occupied the usual site at that side, and the absence of pressure-signs was not incompatible with the existence of that form of the affection. The diagnosis was left undetermined.

"The patient went South; improved in general health; shortly after had epileptiform seizures; came home with palpable extra-cranial, and inferrible intra-cranial nodes and his lung unchanged. He was put on a course of bichloride of mercury, under which, among other changes, the lung so completely recovered, that after a while not a particle of difference could be detected in the percussion-note on the two sides. Years afterwards I saw this patient in perfect health.

"The evidence seems very strong here that softish syphilitic exudation had undergone absorption. True, neither in non-diathetic nor in syphilitic fibroid infiltration has the product been actually *seen* in the lung in the soft state; but Guebler has found the exudation-material soft, even quasi-liquid, in the liver of infants cut off by syphilis.

"But here is a graver condition of things. Secondary syphilis, cutaneous, pharyngo-laryngeal and anal, has existed in an individual who is gravely emaciated and enfeebled who has pyrexia and night-sweats, with cough and more or less expectoration—though not, as far as I chance to have seen, hæmoptysis. Here the physical signs may prove, in a tempered form, those of non-diathetic cirrhosis, limited in the main to one side, especially the class of signs appertaining to bronchitis. When first seen, I do not know any means by which a case of this type could with surety be distinguished from some form of tuberculous or caseous destruction, or from an unadvanced condition of ordinary cirrhosis. But by-and-by, when rapid extinction seems imminent, wasting and prostration being alike carried to extremes, a rally, inexplicable almost on the hypothesis of any one of those three affections, takes place; the patient goes on for a while well, and the diagnosis becomes clearer. Sooner or later he again breaks down—life seems again in jeopardy, and again is saved.

"Now I entertain no doubt that cases of this class have been set down by the older observers as examples of ordinary tuberculous phthisis running exceptionally a remittent or quasi-intermittent course. They are chiefly observed among the dissolute of both sexes; and I suspect they may in some measure supply the real foundation of the opinion that phthisis runs a slower course in habitual drinkers than in sober persons. But only in some measure: for I have observed this slow course in drinkers who were very positively non-syphilitic. Probably too, the cases of phthisis 'cured with mercury' by our forefathers were really examples of syphilomatous breakage.

"Eventually death takes place without miliary tuberculization or caseation having occurred; other tertiary syphilitic phenomena oftentimes hastening the fatal issue.

"*Diagnosis.*—The want of proportion between the general symptoms and the local chest-mischief; the unilaterality of the attendant bronchitis; the slight amount or absence of night perspirations, and the syphilitic history or the actual presence of tertiary changes, are the main guiding elements of diagnosis. But these may be quite insufficient to justify a formal opinion until time, sufficiently long to display the peculiar course of the disease, has worn away.

"*Prognosis.*—The prognosis, though grave, is very greatly less so than in tuberculous disintegration.

"*Treatment.*—Slight mercurialization, and best by the iodide of mercury, is singularly beneficial in some of these cases: probably the more so the more positive the evidence of syphilomatous tumor of well-marked dimensions. Iodide of potassium, if there be real objections to the use of mercury, forms the most reliable medicine.

"Various mercurial and ioduretted remedies may be used with great advantage as inhalations, either with Sturt's instrument or Seigle's spray-inhaler.

"A course of the waters of Aix-la-Chapelle proves singularly beneficial to some of these sufferers.

"The fitting remedies for all wasting diseases must, of course, be employed as subsidiary aids."

ART. 51.—The Action of Sulphate of Quinine upon the Temperature in Pulmonary Phthisis.

Under the care of Dr. OGLE, at St. George's Hospital.

(*The Lancet*, July 6.)

The following observations regarding the action of quinine upon the temperature of the body in pulmonary phthisis were recently made by Dr. Ogle. The patient, a young woman, was admitted into the hospital with symptoms of dyspepsia, attended by pain across the back, great debility, and mental despondency. At this time no febrile condition existed. Subsequently, whilst taking quinine and sulphuric acid, pains about the thorax came on, and also undoubted general and stethoscopic signs of deposit of tubercle. At this time the daily registering of the temperature of the body was undertaken. From April 27th to May 20th the temperature was 100° night and morning, except on three occasions, when it went up to 101°—once in the morning and twice in the evening, at intervals of three or four days.

During the above days—that is, from April 27th to May 20th—the patient was treated as follows, viz., by two-grain doses of quinine, and a few drops of sulphuric acid in water every four hours, and by occasional turpentine stupes to the chest, until May 1st; she then took effervescing citrate of ammonia and carbonate of ammonia until the 6th of May; after which she returned to the quinine and acid, and took two drachms of cod-liver oil after dinner. This was continued (a blister having been applied beneath the left clavicle on the 18th) until the evening of the 20th, when she began to take ten-grain doses of quinine in a little dilute sulphuric acid and water three times a day. The temperature was then recorded as follows:—

	A.M.	P.M.		A.M.	P.M.	
May 21st	100 ^o	100 ^o		May 23d	99 ^o	99 ^o
22d	99	99		24th	99	99

On the 24th the quinine was increased to fifteen-grain doses until the 27th, the temperature during this time being registered as follows:—

	A.M.	P.M.		A.M.	P.M.	
May 25th	98°	99°		May 26th	99°	99°

At this time the quinine produced such discomfort and pains in the head, with buzzing in the ears and dimness of sight, that the dose was again diminished to ten grains, and continued till May 31st; and during this time the following temperatures were recorded:—

	A.M.	P.M.		A.M.	P.M.	
May 27th, 100.4°		100.3°		May 30th	100°	100°
28th, 100.3		100.2		May 31st	100	—
29th, 100		100.2				

At this period, as the uncomfortable feelings about the head had not subsided, Dr. Ogle omitted the quinine for some days altogether; the temperature during this time remaining at 100°. On June 3d, as all discomfort had abated, Dr. Ogle at once put the patient on twenty-grain doses of quinine, night and morning, which doses were continued until June 10th; and the following temperatures were during that period recorded:—

	A.M.	P.M.		A.M.	P.M.	
June 4th	—	99 ^o		June 8th	100.2 ^o	100 ^o
5th	99 ^o	99		9th	99	99
6th	99	99		10th	100	—
7th	100	99.2				

On the 10th the quinine was discontinued, and the patient a few days after, at her own desire, left the hospital, and thus observation of her case was broken off.

With regard to diet, the patient, during the thermometrical observation, was taking meat and potatoes, or fish with eggs and (at her own request) without butter, until June 3d, when she had fish and beef-tea, occasionally eggs, but no meat. For the most part, three ounces of port wine were given daily.

On consideration of the tables, the following points are noticeable:—

1. The high temperature and its uniform range in a case of active phthisis, the temperature during observation, prior to the exhibition of the large doses of quinine, being never lower than 100° F., and occasionally 101° .

2. The promptitude with which (see date May 22d), on the exhibition of the ten-grain doses of quinine, the temperature sank to 99° , this range being maintained night and morning.

3. The same degree of temperature only being attained when the quinine was increased from ten to fifteen-grain doses, except on one occasion (the morning of May 25th), when it fell to 98° .

4. The return of the high range of temperature on the disuse of the quinine, and even of a higher degree, as on three occasions it reached respectively 100.2° , 100.3° , and 100.4° .

5. The subsequent reduction of temperature to 99° on the quinine being given in twenty-grain doses, night and morning, with only one or two exceptions, when it attained 100° and a little more.

During these fluctuations no proportionate modifications of respiration, of the pulse, or of the heart's beat, were found to exist.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 52.—*On Extra-Cardiac Souffles.*

By Dr. R. LÉPINE.

(*Gazette Médicale de Paris*, No. 26, 1872.)

"Under certain conditions which are not of very rare occurrence, and to which I shall afterwards return, the heart may, in consequence of its variations in size during systole and diastole, expel more or less brusquely the air contained in the adjacent pulmonary alveoli, or may draw it in by causing a tendency to the formation of a vacuum. These *local* expirations and inspirations limited to portions of the lung in immediate contact with the central organ of the circulation, may be accompanied by tolerably loud bruits, naturally isochronous with the normal sounds of the heart, presenting sometimes, partially at least, the timbre of the respiratory murmur, but most frequently resembling intra-cardiac souffles, and in some cases so far as to completely simulate them. An augmentation of the energy of the cardiac movements, or, again, a morbid adhesion of the lungs, are the conditions which favor the manifestation of these extra-cardiac blowing sounds.

"Laennec was the first to describe these sounds, which he did briefly. They were afterwards studied in England under the designations of *pulsatile respiration* (Thornburn), and *pulsatile pulmonic crepitation* (Richardson), and in Germany by Skoda, Wintrich, Gerhardt, and Niemeyer. In the second edition of his work on diseases of the heart, M. Friedreich has given a good and long description of them.

"In a case of thoracic deformity, M. Woillez found at the posterior part of the chest an intermittent bruit, "isochronous with the pulse, and which was neither a blowing sound, a grating sound, nor simple arterial rustling, but a bruit of a manifestly vesicular character." He considered that it was caused by rustling of the pulmonary tissue at each aortic dilatation.

"This particular observation, and the passage in Laennec's writings, comprised the whole of French literature concerning extra-cardiac souffles until

the year 1862, when a thesis¹ was written by Dr. Choyan, whose attention had been directed by Dr. Potain to this interesting subject.

"If the whole difficulty consisted in determining the mechanism of the production of these bruits, they would interest physiologists more than physicians; but in spite of what has been said by certain authors, who have doubtless made but a very superficial study of the subject, it is very often a difficult matter to distinguish them from intra-cardiac bruits; they may, therefore, lead one to suppose the existence of an affection of the heart when such really is not the case, and this the more readily as the sounds are most frequently met with in patients in whom the heart contracts energetically and who suffer from palpitations. I remember a case in which a physician well skilled in the diagnosis of affections of the heart was deceived by one of these blowing sounds, and admitted without reserve that there was an organic lesion. The autopsy showed that the heart was quite sound.

"If one consults the authors whom I have just named, it will be found none have given any characters by which these sounds may be distinguished from intra-cardiac blowing sounds. This, however, is not surprising, as most of these authors did not even suspect the difficulties of the subject. Here, then, we have a serious gap in the diagnosis of affections of the heart.

"This want has just been supplied by M. Potain, to whom we owe so much in connection with the pathology of the circulating system. From an excellent lecture on extra-cardiac souffles, recently delivered by this physician at the Necker Hospital, we borrow the following description of the principal characters of these sounds:—

"The first character is this, that they are to be heard at a part where the presence of a layer of lung may be recognized by percussion. This is a necessity of their existence. If then a blowing sound be heard at a point where the heart is in immediate contact with the wall of the chest, this sound must be an intra-cardiac one.

"Exception being made of those cases which no doubt are extremely rare, where an extra-cardiac blowing sound may be heard at the posterior part of the thorax, they are the sounds generally met with in the precordial region towards the apex of the heart or above, more rarely at the base. At the apex they are produced more frequently during the systole than during the diastole; if they be seated a little above the apex they may sometimes be imperceptible until after the first cardiac sound, a character which enables one to reject the idea of a mitral bellows sound which never follows the stroke of the apex. In some cases, which seem to be rare, they precede the stroke. I will return subsequently to an interpretation of these peculiarities.

"At the base the sounds are often diastolic, and with them here there sometimes occurs an isochronous depression of the thoracic wall, which has been designated as negative pulsation.

"Whilst intra-cardiac souffles are propagated, as is known, in determined directions, those with which I am dealing are heard over a very limited region.

"With regard to their timbre, I have already stated that sometimes they remind one of the slightly crepitant souffle of the respiratory murmur, and at other times quite resemble intra-cardiac souffles in presenting a peculiar harsh character. At some period or other these souffles very frequently undergo remarkable modifications. A slackening of the heart's action, or a change in the patient's position, may diminish their intensity, and in some cases, though very rarely, may cause them to cease. The sitting position and decubitus on the left side are generally unfavorable to their production.

"Intra-cardiac souffles are heard better while the inspiration is suspended; with the extra-cardiac souffles the contrary holds. The former are always to be more readily heard during expiration than during inspiration, the heart being then less covered by the lung, whilst for hearing certain extra-cardiac souffles, the period of inspiration, on the contrary, is the most favorable.

¹ Des Bruits pleuraux et pulmonaires dus aux Mouvements du Cœur. Paris, 1869.

"With this abundance of differential signs one might probably think that there could be no possible doubt in the diagnosis. It would be desirable that this were so, but unfortunately there are in some cases extreme difficulties, so that one cannot attain certainty even by taking into account, as ought always to be done, the existence or absence of the functional signs of an organic affection of the heart. I have already stated that many patients suffering from palpitation are precisely under conditions favorable for the production of extra-cardiac souffles. In endocarditis what part in the production of the souffles is taken by the increased energy of the cardiac contractions? This is a grave question, which the practitioner ought to resolve in admitting by preference the *boursoufflement* of the valves as the special cause. An active treatment, though it were superfluous, is much better for the patient than abstaining, which might be injurious.

"I would that I were able to enter into details and attempt to show, as has been done by M. Potain, by an analysis of the mechanism of these souffles, the cause of their multiple and variable characters. Nothing is easier than the conception of the production of a systolic bruit at the apex; the air in the alveoli is brusquely expelled by the movement of the heart. The presystolic bruit is necessarily explained by the contraction of the auricle. With regard to the souffle perceptible only after the ventricular systole, the interpretation is more difficult. It is most likely an inspiratory and not an expiratory sound, but it must be admitted that the inspiration produced by the systolic retreat of the heart is not at once sufficiently strong to produce a perceptible sound.

"Decubitus on the left side is less favorable to the production of the bruit, because the heart pressing upon the lung does not allow it to expand to the necessary degree. This condition of a certain degree of repletion of the alveoli explains why there are souffles which are only produced during inspiration."

ART. 53.—*Differential Diagnosis of Anæmic from Organic Murmurs of the Heart.*

By JAMES H. HUTCHINSON, M.D.

(*Boston Medical and Surgical Journal*; and *Medical Press and Circular*, October, 16.)

Dr. Hutchinson, in a lecture on anæmia, states that he has found a peculiarity in cardiac murmurs arising from anæmia, which is but obscurely alluded to by some writers on auscultation. The murmur will be found to be much more intense when the patient is in the recumbent position than when he is either standing or sitting. Having never failed to detect this greater intensity in the recumbent position in every instance in which he has auscultated anæmic patients, Dr. Hutchinson believes it is a characteristic of some importance in the differential diagnosis of anæmic from organic murmurs.

ART. 54.—*Nitrite of Amyl in Neuralgia of the Heart.*

By LEARTUS CONNOR, M.D., Professor of Physiology in Detroit Medical College.

(*Detroit Review of Medicine*, August, 1872.)

Dr. Connor extols this remedy in cases of this character, and mentions a case, accompanied by alternating attacks of asthma, in which prompt relief was afforded after the patient had inhaled from six to ten drops. In this history the subjoined points are of interest. Though no hereditary cause for angina could be traced, the life of the patient had been such as to most thoroughly exhaust the nervous system. There was no evidence of any heart disease or ossification of the arteries. The attack came on after a course of intermittent fever, unchecked for two weeks. As it was accompanied by alternating attacks of asthma, gastralgia, and intercostal neuralgia, this would point

to the conclusion that these were all due to the same cause—some disease of the nerves supplying the heart, solar plexus, and the lungs. The advantages of this remedy over any other anti-spasmodic are its more rapid action, and its freedom from any unpleasant sequelæ. In his use of nitrite of amyl he has never been able to obtain any other therapeutical effects than those following the relaxing of spasm.

ART. 55.—*Tricælian Human Heart.*¹

By S. M. BRADLEY, F.R.C.S.

(*British Medical Journal*, August 24.)

The child, from whom the heart was taken, was born at the full period, of healthy parents. For the first thirty-six hours after birth the child appeared perfectly well, both circulation and respiration being efficiently carried on. At the expiration of this time it became cyanotic, was convulsed, and died at the end of forty-eight hours. The heart was situated naturally and was of normal size. There was but a single emergent artery issuing from the heart; it gave origin to both the pulmonary arteries, and to the usual aortic branches. This arterial trunk sprang from a single ventricle, into which both auricles poured their blood. The auricles were of unequal size, the right being larger than usual, the left extremely small: a freely patent foramen ovale permitted the passage of the blood from one to the other. The caval veins terminated as usual in the right, the pulmonary veins in the left auricle. The auriculo-ventricular valve approximated the mitral in character; the large single artery was furnished with well-formed semilunar valves, behind which the sinuses of Valsalva were easily seen. The pulmonary arteries were large and close together; one, the left, being at a higher level than the other. The course which the blood would take in this case would be as follows. From the single ventricle blood would be poured into the arterial trunk; thence it would first of all pass into the pulmonary arteries, and partially traverse the lungs, the returning blood being poured by the pulmonary veins into the small left auricle, whence the greater part would flow through the foramen ovale into the right auricle, and thence into the single ventricle. The greater part of the blood, however, would never reach the lungs at all, but would be propelled along the continuing trunk (aorta) into the aortic branches; this systemic blood re-entering the heart in the usual way by the caval veins. The condition of heart which was found to exist in this child is the normal state in an embryo of eight weeks. At this time the aorta and pulmonary arteries are one; the auricular septum is imperfect, and the ventricular septum only commencing to be formed; a condition which is persistent in the batrachia. Five cases of a somewhat similar kind have been recorded.

ART. 56.—*On the Treatment (in extremis) of Acute Cases of Fibrinous Deposition in the Heart.*²

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*Medical Press and Circular*, Nov. 20.)

The author said that when he—twenty-two years ago—revived the subject of the nature, diagnosis, and treatment of fibrinous depositions in the heart during life, he met with two classes of objectors in the course of the debate. One esteemed Fellow, tuxing his labors as visionary, had asked the severe question whether had the paper been before the Committee of Reference? Another equally esteemed Fellow had said that if the facts were as had been stated, they served but to raise up a hopeless knowledge for medical men. Therefore, *cui bono*? In a few years the first of these objectors passed away. By re-

¹ Read before the British Medical Association.

² Read at a Meeting of the Medical Society of London, Nov. 11.

peated experimental proof, he (Dr. Richardson) had made it a demonstration that fibrine does, in some cases, separate in the heart during life, while from clinical observation he had been able to point out the symptoms indicating the fact of such separation. The second objection had been met with infinitely more difficulty, and he had not, though so many years had passed, ventured to speak of it with hope of removing it. He had been called year after year to see and find cases (*in extremis*) where death was clearly the result of fibrinous separation, and he has discovered no opportunity of affording distinct service. At last this distressing state of doubt was passing away, and he might venture to speak of some method of approach towards success. He next referred to the exceeding mortality of the cases he had seen; they included cases of croup in children, of pneumonia, of peritonitis, of ovarian operation, of parturient cases before and after labor, and with and without phlegmasia, of erysipelas, of scarlet fever, and of some obscure cases in which nothing was proclaimed until the appearance of the fatal symptoms, except what was called cold or febricula, or remittent feverishness. After describing some in detail, he continued by stating that in his experience recoveries after fibrinous deposition had become actually developed were not more than three per cent. Of all classes of disease croup he believed yielded the largest number of examples; after that diphtheria, and after that the puerperal condition and peritonitis. He proceeded to place before the Society in a revised form the special points of diagnosis of fibrinous separation as occurring (a) on the right side and (b) on the left side of the heart. Then he noticed anew the condition favoring deposition. Under this head especially he named increased local heat of parts involving large veins, as of the extremest importance. For example, erysipelas involving the skin over the lower extremities was exceedingly dangerous. He was of opinion that the local increment of heat was in such cases sometimes the only just cause of danger. The increased temperature of blood in the veins produced the pectous condition in minute portions of fibrine, and the semi-solid little masses of fibrine formed were carried into the heart to become nuclei or centres for the larger separations. More speedily or sudden, general or systemic increment of heat, as in certain cases of apoplexy, led to separation in the larger vessels, and in the heart itself. The greater portion of the paper was devoted to the subject of treatment in cases of fibrinous deposit, and specially in cases *in extremis*. The author here first dwelt on what was bad treatment. He said so soon as the symptoms of deposition had become developed, all influences that had a depressing effect upon the heart ought to be instantly withdrawn; mental influences telling upon the emotions should be avoided. Sometimes the great distress exhibited by the sufferers—the distress of the dyspnoea particularly—tempted the practitioner to give opium. The practice was fatal, and could only be defended on the doubtful ground that all treatment was useless, except to secure euthanasia. In cases of croup it was often a question whether tracheotomy ought to be performed to relieve dyspnoea, it being uncertain whence the dyspnoea proceeded, whether from obstructed respiration or obstructed circulation. In such instances the diagnosis was simple, and when it was clear that the dyspnoea was cardiac the operation was useless, and was better avoided; but in mixed cases or in cases of doubt, Dr. Richardson was inclined to give the patient the benefit of the operation. In purely defined instances of fibrinous separation the practitioner having determined what should not be done, has to settle the question—What shall be done? The first element of treatment, especially where the separation is on the right side, is to give absolute rest of the body in the recumbent position, for the heart working under embarrassment can bear no undue fatigue, and at the same time every active motion increases the danger of loosening the fibrinous mass, and of allowing it to float into the pulmonary artery. Rest secured, there should be given as much food as the stomach will bear without distension from flatus, milk rendered slightly alkaline by lime-water, and charged with a little Liebig's extract of meat, being on the whole the best food. The body, if it be cooling, should be kept warm by external dry applications. Sand-bags are the best when they can be easily procured, and the temperature of the air should be sustained at 60° F., or even 70°, the air also being kept dry. As to internal

remedies the author had first inclined to the free exhibition of alkaline solutions, especially ammonia; but in a case in which several years ago he carried out this treatment, using the bicarbonate of ammonia, and which terminated fatally after several days, although the concretion was found to have greatly softened and broken up, the blood was reduced to such an extreme solubility, the corpuscles so extensively destroyed, he had found the remedy was as serious as the malady. He had suggested the injection of ammonia by the veins in these cases, but had held back for the reason stated above from following out the idea. He had tried inhalation of ammonia, but without sufficient success to warrant enforcing the plan. Lately seeing the all but invariable fatality that followed the fact of depression, he returned again to the use of ammonia as a remedy, by administering it in large and repeated doses, in combination with iodide of potassium, using not as before a salt of ammonia, but the liquor ammoniæ of the Pharmacopœia. To an adult he administered 10 minim doses of the liq. am. in iced water every hour, with from three to five grain doses of the potassium iodide every alternate hour. This treatment has been followed by a degree of success he had never anticipated. Nothing could be more remarkable than the fact of the quantity of ammonia that could thus be administered without danger, except the fact of the degree of fluidity of blood, and of blood corpuscles that could be recovered from. In proof of this he detailed two cases in which this treatment had been followed out with the effect of entirely relieving the heart when death seemed all but certain; one of these cases had ended in slow but entire recovery, and the other had now progressed favorably for nine weeks. The addition of alcohol to the treatment in the management of these cases was then discussed. The direct effect of alcohol in these cases was unfavorable when taken alone, but with ammonia it might be given with advantage whenever the heart was commencing to fail in action; the solution of ammonia in alcohol might then be substituted for the aqueous solution, or brandy might be given in half-ounce doses every hour; alcohol, however, was only to be held in reserve as an adjunct rather than a remedy. The course of the symptoms during recovery, the dangers that appeared, the changes of blood, and the risk of secondary pathological modifications in remote organs, and especially in the spleen, were described and subjected to practical comment. In conclusion, the author stated that prognosis was much more favorable when fibrine had separated on the left than on the right side of the heart, the breaking away of the fibrinous mass on the left side being followed sometimes by immediate relief to the heart and by ultimate recovery. He mentioned a case where he had been summoned from town to attend, and he left the patient apparently "in articulo mortis," and he was only able to comfort the friends with the hope that the concretion might possibly break away, and the heart become relieved. Shortly after he had gone, the event thus hoped for actually occurred; the semi-conscious patient was almost immediately relieved, and except for some temporary numbness of the lower extremities, for the concretion was carried in the abdominal aorta, recovery was completed without an unfavorable symptom. Although a much larger experience was demanded to improve the work he had set forth, Dr. Richardson felt, nevertheless, that a distinct advance had been foreshadowed for a class of cases hitherto considered hopeless; he thus felt it his simple duty to lay the comminative instalment, as it was, and nothing more, before his fellow-practitioners of the healing art.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 57.—*Indigestion and its Management.*

By BRADFORD S. THOMPSON, M.D., New York.

(*American Practitioner*, July, 1872.)

Dr. Thompson, in his paper on this subject, alludes to a case under his observation where everything appeared to the patient double; in another every object seemed inverted; and in another, total blindness came on, which con-

tinued for twenty-one hours. The latter patient, a conch-woman, of Key West, Florida, aged forty-seven, was in the habit of eating prodigiously of a salad made from the indigestible conch, which abounds in that latitude.

In the indigestion of childhood the use of Boudault's pepsin wine can be highly recommended. This is prepared from pure pepsin, according to the formula of Dr. Corvisart, and is very palatable. Each dose possesses fully the digestive power of fifteen grains of the powder. This preparation, he states with much confidence, is superior to all other preparations of pepsin in use. It should be given immediately before a meal.

In regulating the diet, the author would impress upon the patient the necessity of observing the subjoined rules: 1st. Enjoin frequent and regular eating in the majority of cases. It was a remark of Sir William Temple, "that the stomach is like a schoolboy; if idle, always in mischief." The deduction drawn from this is to keep the stomach moderately employed. 2d. Let the diet be simple, always consisting exclusively of one article. 3d. Drink little or nothing while eating. 4th. Exercise should not be permitted directly after eating. In many cases a voracious appetite attends this affection; but in the majority of cases there is very little inclination to eat; and under these circumstances it will not be amiss to attend to the following particulars for the purpose of exciting the appetite; do not let the patient know what he is to eat. The food should always be cold; when hot the odor will often destroy the appetite. The dishes should always be small; for nothing is more distressing to a patient with a delicate stomach than a large dish of meat placed before him. These circumstances, though apparently trivial in their character, are very important, and deserve recollection.

ART. 58.—*Nux Vomica in Dyspepsia.*

By J. E. NICHOLS, M.D., Osage, Iowa.

(*Chicago Medical Journal.*)

Dr. Nichols states that in this affection his main reliance is *nux vomica* in small tonic doses. If there is little or no trouble beyond the stomach he gives: \mathcal{R} Fl. ext. *nux vom.*, \mathfrak{z} ij; alcohol, \mathfrak{z} vj. M. Sig. Five drops in a little water before each meal.

If there is some irregularity of the bowels, with the pain of epigastrium around to the right hypochondrium, he combines the mandrake as follows: \mathcal{R} Fl. ext. *nux vom.*, fl. ext. mandrake, alcohol, $\mathfrak{a}\mathfrak{a}$ \mathfrak{z} ij. M. Sig. as the other.

Where there is much complaint of wakefulness at night, horrid dreams, etc., he gives in addition to the foregoing: \mathcal{R} Iodide potassium, \mathfrak{z} ss; chlorate potassium, carbonate potassium, $\mathfrak{a}\mathfrak{a}$ \mathfrak{z} j. M. Ft. pulv. div. in chart. xx. Sig. One in half a glass of warm milk each night at bedtime.

If, as is often the case, a large portion of the day witnessed pain in the head, throbbing in the temples, he administers bromide of potassium and syrup for a morning potion, as soon as the patient awakes. Sometimes gelseminum is combined, thus: \mathcal{R} Fl. ext. *nux vom.*, fl. ext. mandrake, fl. ext. gelseminum, $\mathfrak{a}\mathfrak{a}$ \mathfrak{z} ij. M. Sig. as the others.

In cases of troublesome nausea, heartburn, acrid or fetid eructations after eating, he uses phosphate of lime rubbed up with loaf sugar; or, in place of this, \mathcal{R} Syr. amantii, \mathfrak{z} vj; arom. sul. acid, \mathfrak{z} ij. M. Sig. Teaspoonful an hour after each meal, or whenever the eructations are troublesome.

ART. 59.—*Pharyngitis and Rhinoscopy.*

By HARRISON ALLEN, M.D., Surgeon to Philadelphia Hospital.

(*Philadelphia Medical Times*, August 1; and *The Medical Record*, Sept. 16.)

Dr. Allen says that in pharyngitis dependent upon general naso-pharyngitis, no instrument can approach in efficacy the atomizer. The best form of this instrument with which he is familiar is that known as the Sass sprayer. The

peculiarity of this instrument consists in the test-tube receiver, which is held in the left hand, and a pair of very long barrels, the points of which, when the receiver is near the mouth, are lodged within the axis of the pharynx; the whole being worked by a bulb and tubing held in the right hand. In specific ulceration of the naso-pharyngeal space, he has obtained good results from the use of a solution of sulphurous acid of one drachm to the ounce, sprayed upward through the naso-pharyngeal aperture; or the pure acid may be applied to the affected spot if the part thus operated upon lie below the palate. Where there is abundant mucus, as in lingering acute catarrh, a spray of strong alum water proves oftentimes efficacious. It is in this class of cases that insufflations of alum are of advantage. The best insufflator is a simple glass tube, bent at convenient angles and furnished with a fenestra at about its middle; a light piece of India-rubber tubing attached to one end of the glass tube completes the instrument. The powder to be used is inserted in the glass tube through the fenestra, which is then covered by a sliding cylinder of rubber. The instrument now being inserted in the pharynx, with the orifice of the tube pointing upward, the opposite end of the instrument is held between the lips of the operator, who quickly blows the powder up into the naso-pharyngeal space.

In closing this clinical lecture, he advocates the nasal douche as an adjunct to the treatment; more, however, as an aid in *washing* the parts than to medicate the region. Weak solutions of salt, or carbonate of soda, used *tepid*, will meet every indication. The washing need not be repeated oftener than once a day—say at the time of the morning toilet.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 60.—*On the Part played by Nerves in the Production of Artificial Diabetes.*

By Dr. E. CYON, and Dr. ALADOFF.

(*Bulletin de l'Académie impériale de Saint-Petersbourg*, viii.; *Archives Générales de Médecine*, Juillet, 1872.)

It is well known that diabetes cannot be produced by puncturing the fourth ventricle after the splanchnic nerves have been divided. On the contrary, one cannot by dividing these nerves after puncture of the ventricle arrest the diabetes which has already been produced. These facts, which were demonstrated by M. Claude Bernard, have not as yet been explained. Pavy found that section of the last cervical ganglion of the great sympathetic was followed by diabetes. Eckardt also found that section of a cervical or a thoracic ganglion produced, like puncture of the fourth ventricle, diabetes, the morbid condition being due to an irritation of the nervous centres affected by the operation. By dividing, on the other hand, the splanchnic nerves between the ganglia, the fibres which would produce the diabetes are paralyzed.

The authors sought in the first place to learn whether section of the ganglia would really produce an irritative diabetes as was supposed by Eckardt. They completely excised the ganglia in dogs, and found that after this operation the animals were affected with diabetes quite as rapidly as after section of the ganglia, and their urine constantly contained a high proportion of sugar. To obtain this result it was sufficient to excise the last cervical ganglion, an operation which is always followed by paralysis of the vaso-motor nerves of the upper extremity.

It seems evident that the diabetes thus produced is due to paralysis of certain nerves which are in direct communication between the first thoracic ganglion and the last cervical ganglion.

The authors next studied the nerves which pass to and from the inferior cervical ganglion. They found that diabetes was produced only in cases where they had divided the two vertebral branches or the two nerves which pass to the first thoracic ganglion and which surround the subclavian artery in forming the ring of Vieussens. Section of other nerves has absolutely no influence on the production of sugar.

The nervous filaments, the paralysis of which produces diabetes, pass from the cord through the vertebral branches, then traverse the inferior cervical ganglion, from which they proceed by the ring of Vieussens to the first thoracic ganglion.

In order to investigate the ultimate course of these nerves the authors made a subcutaneous section of the great sympathetic between the tenth and twelfth ribs in a dog; this operation was never followed by diabetes; but subsequent section of the inferior cervical and the first thoracic ganglion on the same side likewise produced no result. On the other hand, by dividing the great sympathetic after extirpation of these ganglia, sugar still remained present in the urine.

These results, which agree in all points with those of M. Claude Bernard, prove that the great sympathetic as well as the splanchnic nerves contain two kinds of nerves the actions of which are quite opposed. Some proceed from the first thoracic ganglion, and their paralysis causes diabetes; the others have a more remote and spinal origin, and paralysis of these prevents the development of diabetes.

It seems more than probable from the results of these experiments that we have to deal here, according to Schiff's supposition, with vaso-motor nerves: in fact, the authors have made out that by irritating the ring of Vieussens, phenomena of contraction may be produced in the small vessels of the surface of the liver, these contractions being characterized by the production of dark-colored spots corresponding to the limits of the acini. In order that they might study this phenomenon with certainty, a T-shaped canula was placed in the hepatic artery, and the pressure was measured. Excitation of the ring of Vieussens was followed by an increase of the pressure from 30 to 70 millimetres of mercury; at the same time the pressure in the carotid was increased only from 5 to 10 millimetres. The pressure in the vena porta was raised only from 10 to 12 millimetres. On the other hand, section of the ring of Vieussens was followed by a diminution of pressure in the hepatic artery, which reached its maximum in the course of from ten to fifteen minutes.

Resting upon these facts, the authors attribute artificial diabetes to a dilatation of the arteries of the liver, and to a consequent increased flow of blood to this organ. To explain the absence of diabetes after section of the splanchnic nerves, or of the ganglionic portion of the great sympathetic, it is necessary to observe that these two operations cause simultaneous dilatation of all the vessels of the abdomen. Moreover, the dilatation of the hepatic arteries is not excited by a more considerable supply of blood to the liver, for a great part of the blood finds itself directly taken up by the other dilated vessels.

In conclusion, the authors point out a difference which exists between the diabetes which follows puncture of the fourth ventricle, and that produced by the operation above described; in the former instance, there is always hydruria; in the latter, this condition is absent. The probable explanation of this fact is, that the puncture causes a simultaneous lesion of some vaso-motor nerves of the kidney.

ART. 61.—*A Case of Diabetes following Dissolution of the Seventh Cervical Vertebra.*

By Dr. W. MULLER, of Jena.

(*Archives Générales de Médecine*, Août, 1872.)

A man, aged sixty years, fell from a ladder, and remained unconscious for some minutes. When he came to himself he found that the right half of his head was swollen, and the neck painful on movement. He could not carry his head quite erect. There was absence of paralysis, and of difficulty of phonation or deglutition. He recovered in the course of fifteen days. Fifteen days later the patient commenced to suffer from intense thirst, and passed a very considerable quantity of urine containing sugar; he complained of loss of appetite, activity, and emaciation. Two and a half years after the accident the man succumbed with symptoms of phthisis.

Autopsy.—The seventh cervical vertebra was bound to the sixth by osseous ankylosis. The articulation of the seventh cervical with the first dorsal vertebra presented no anomalies. The body of the last cervical vertebra seemed to be placed behind the bodies of the neighboring vertebrae, and its anterior surface presented marked flattening. The cervical ganglia of the sympathetic nerve on each side seemed to be normal; also the first thoracic ganglia, the anterior and posterior roots of the nerves, and the intervertebral ganglia of the sixth and seventh pairs. On making a transverse section near the upper face of the seventh vertebra a hard and resistant mass of callus was found.

On microscopical examination, no trace of lesion could be found, either in the disks or in the floor of the ganglionic cells of the fourth ventricle. The tunica adventitia of some of the vessels in this region presented at several points slight thickening, due to cellular infiltration. The perivascular spaces seemed to have increased somewhat in size.

The spinal cord, as far the seventh cervical nerve, and from the origin of the fourth dorsal nerve downwards, presented no lesion. Between these two nerves were observed a partial disappearance of the gray substance at the bases of anterior cornua, particularly at the right side, and a substitution of a loose connective tissue; this change was doubtless due to a disintegration of the gray substance which had followed dislocation and fracture of the seventh cervical vertebra. The cervical and thoracic ganglia of the great sympathetic nerve were in a normal condition.

The diabetes seemed to have been due to a lesion of the cord; indeed it was produced at a point where the spinal lesion had already taken place. Schiff and Eckardt have demonstrated that a lesion of this portion of the cord may be followed by artificial diabetes. Muller regards the dilatation of the perivascular spaces as a fortuitous circumstance. Diabetes may exist without this lesion, and *vice versa*.

ART. 62.—*Treatment of Diabetes Insipidus.*

By GUENEAU DE MUSSY, M.D.

(*Medical Press and Circular*, October 16.)

Dr. Gueneau de Mussy recommends the administration of full doses of beladonna and sulphurous baths in the treatment of diabetes insipidus. Its use in incontinence of urine is well established. Systematically employed in diabetes insipidus, it has diminished the quantity of urine passed from ten pints to two pints *per diem*. The sulphurous bath brings the skin to the relief of the kidney.

ART. 63.—*Cases of Diabetes Mellitus treated with Lactic Acid.*¹

By JOHN W. OGLE, M.D.

(*Medical Times and Gazette*, Aug. 24.)

Dr. Ogle described several cases of saccharine diabetes, in which he had, in addition to the use of a non-amylaceous diet, used lactic acid in considerable quantities. The details and results of some of these had been already mentioned in some of the weekly periodicals; and Dr. Ogle now brought before the Section the particulars of two cases which had recently been under his care at St. George's Hospital, and of which daily notes, with registration of amount of urine and its specific gravity, of the weight, and sometimes temperature, of the body, had been carefully noted. The two cases were admitted into hospital on the same day—one being a male, aged 20; the other a female, aged 28. In both cases meat, and non-amylaceous vegetables, with gluten bread, etc.,

¹ Read before the British Medical Association.

were given for several days, without the administration of any remedies. In the case of the woman, who was treated for eleven weeks before the lactic acid was given, the urine ranged in quantities between 112 and 178 ounces per diem; after the use of the acid the quantity quickly sank, and throughout its use fluctuated between forty and seventy ounces daily, one day being as low as thirty ounces. During the whole of this time the specific gravity remained much the same as when the patient came to the hospital. In the case of the man, who was treated for seven weeks, under the lactic acid treatment no marked diminution of urine and no change in the specific gravity was observed; but, after its long continued use, whether owing to it or not was doubtful, great constipation came on, requiring active aperients. As regarded the weight of the body, in both cases during treatment it fell; in the man from 8st. 5lbs. to 7st. 7lbs., in the woman from 7st. 3lbs. to 6st. 8lbs. In the case of the man the temperature was chiefly *above* the normal, on one occasion only being below, and then it was 97.4—on one occasion reaching 102.8. In the woman it was almost always *below* the normal, mostly being below 98. In both cases the morning and evening temperatures were often taken, but neither one nor the other was uniformly below or above the other. In both cases the lactic acid was increased until four drachms were taken in the day, and this was persisted in for several weeks. In neither case were any sting-like pains, rheumatic or other, complained of during the entire treatment, and in neither was any noticeable perspiration produced. In both cases the sweet and hay-like smell of the breath existed. In neither case was there any indication of interference with or affection of the nervous system; power of movement of the entire muscular system, and sensibility, both general and of particular organs, was entire throughout. The uvula, palate, and pupils were natural. In neither case was there albumen or uric acid in the urine; and in neither was there any decided lung mischief manifest, though a degree of harshness of respiration was perceptible in the woman. Although in one case a decided diminution of the amount of urine without increase of specific gravity followed the use of the lactic acid, yet in both cases flesh and strength were lost, and Dr. Ogle did not think that these cases showed that any benefit arose from treatment.

ART. 64.—*The Lactic Acid Treatment of Diabetes.*¹

By BALTHAZAR FOSTER, M.D.

(*Medical Times and Gazette*, August 24.)

Dr. Foster began by calling attention to the reduction of bodily temperature which reoccurred, and the bearing which this had on the respiratory theory of diabetes. By means of a diagram he showed the relation between daily excretion of sugar and water and the body-weight of the patients. He concluded, as the results of his analysis, that the lactic acid diminished the sugar excretion and the quantity of water passed; while it increased the bodily temperature and restored the functions of the skin.

ART. 65.—*On the Pathology of the Morbid State commonly called Chronic Bright's Disease with Contracted Kidney (arterio-capillary fibrosis).*²

By Sir WILLIAM GULL, Bart., M.D., and HENRY G. SUTTON, M.B.

(*Medical Press and Circular*, July 10.)

The authors of this paper commence by stating that Dr. Bright and subsequent pathologists have fully recognized that the granular contracted kidney is usually associated with morbid changes in other organs of the body; and the

¹ Read before the British Medical Association.

² Read at a Meeting of the Royal Medical and Chirurgical Society, May 28th.

disease in the kidney and the other coexistent morbid changes are commonly grouped and collectively termed "chronic Bright's disease." It is generally assumed that, in chronic Bright's disease, the kidneys themselves are the organs primarily affected; and in consequence, a cachexia is induced, through which other organs subsequently suffer and undergo chronic changes. The authors consider that the history of the disease does not support this opinion. The morbid changes in the kidneys themselves are first considered, the coarser anatomy being omitted. The microscopical appearances observed in granular contracted kidney are given in detail, and their conclusions on this point are as follows. The visible morbid changes in granular contracted kidneys are due to the primary formation of a fibroid or hyalin fibroid substance in the intertubular parts, including the vessels, and to atrophy of the tubular and intra-tubular structures of the kidney. On this point the authors confirm the observations of Dr. Dickinson and other observers. And they further state that this formation commences in different parts of the kidney, commonly near the surface; but it also seems to commence in the outer coats of the arterioles, and in the walls of the capillary vessels. From these parts it extends round the convoluted tubes and Malpighian bodies. This fibroid or hyalin fibroid substance subsequently contracts and draws the Malpighian bodies together, compresses the urinary tubules and vessels, and may entirely obliterate them. This thickening of the capillary walls, and the diminished calibre of some of the arterioles, must naturally interfere with the nutrition of the tissues and tend to produce atrophy; and the blood supply to the secreting cells being in this manner reduced probably causes diminished secretory function and atrophy from diminished use. The alteration in the renal epithelium, when great, is the result of the atrophy; and its slighter changes, such as granular appearance and desquamation of some of its cells, are not peculiar to granular disease of the kidney, such slighter changes being even consequent on the process of dying.

The morbid changes in the vascular system are next considered. Dr. Bright and subsequent observers have recognized that atheromatous arterial disease is common with granular contracted kidney. In 1852, Dr. George Johnson, in his work on "Kidney Disease," stated that the minute renal arteries are much thickened in chronic Bright's disease, owing to hypertrophy of the muscular coats of the vessels. A few years ago the same writer pointed out that the arterioles, not only in the kidney, but in the skin and other parts of the body, are thickened and their muscular coat hypertrophied in chronic Bright's disease. Sir W. Gull and Dr. Sutton describe at considerable length the changes that they have found in the minute arteries and capillaries of the kidneys, pia mater, and other parts; and they state that their observations show that the minute arteries and capillaries are thickened in chronic Bright's disease, and they remark, "we gladly acknowledge the debt the science of medicine owes to Dr. George Johnson for so distinctly insisting upon this fact." The microscopical observations of Sir William Gull and Dr. Sutton show that the arterioles and capillaries are more or less altered in chronic Bright's disease. This alteration is due to the hyalin-fibroid formation in the walls of the minute arteries, and hyalin-granular changes in the corresponding capillaries; that this formation occurs chiefly outside the muscular layer, but it also occurs, but to a less extent, in the tunica intima of some of the arterioles. Further, that the degree in which the affected vessels are altered, and the extent to which the morbid change is diffused over the vascular system of the different organs, vary much in different cases. The muscular layer of the affected vessel is often atrophied in a variable degree. The authors recognize that some pathologists may consider that the perivascular canals are the seat of these hyalin-fibroid changes. On the existence of such canals they express no opinion, they assert only that the morbid changes are chiefly outside the muscular layer of the arterioles. The arterio-capillary changes observed in chronic Bright's disease are not seen in the vessels of healthy persons who have been accidentally killed or who have died of phthisis and of other diseases not allied to chronic Bright's disease.

The condition which induces the vascular change is next considered. Dr.

George Johnson states that the general arterial thickening is due to muscular hypertrophy. He considers the blood is impure in consequence of the kidney disease, and the arterioles resist the passage of this impure, more or less noxious blood, and in doing this they become hypertrophied. The left ventricle of the heart, therefore, makes an increased effort to drive on the impure blood, and the result of this antagonism of force is, that the muscular walls of the arteries and those of the left ventricle of the heart become in an equal degree hypertrophied. This theory Sir William Gull and Dr. Sutton do not accept, for their observations show that arterial changes are not dependent on muscular hypertrophy but on hyalin-fibroid formation. They have found the heart and vessels healthy in cases of chronic disease of the kidneys, and, further, their inquiries show that the cardiac and vascular changes may occur independently of renal disease. Cases given in the appendix to this paper are then alluded to, which show that there is a general morbid state in which the kidneys may be contracted, the heart hypertrophied, and the minute arteries and capillaries altered by a hyalin-fibroid formation. The kidney changes are most often, but by no means always, part and parcel of this morbid state, and their absence shows that the renal changes are not an essential and indispensable part of the general process: but as the vascular system is at some part affected with this hyalin-fibroid change in all the cases, therefore they conclude that the vascular disease is to be regarded as the constant and essential part of this morbid state. The pathology of this hypertrophy of the left ventricle is next considered. Bright considered that the quality of the blood was altered by the kidney disease, and the heart, in consequence, had to contract with greater power to force the morbid blood through the vascular system, and became hypertrophied in order to accomplish this. Many pathologists have adopted Bright's explanation. Dr. Wilks, in 1853, suggested that the hypertrophy might be dependent on atheromatous changes in the vessels. Against the explanation offered by Bright and others, the authors state that the frequent association of cardiac hypertrophy and renal disease does not prove that there is a causal relation between these two morbid states. Moreover, that in many cases where there is chronic disease of the kidneys, and the blood therefore presumably impure, the heart is not hypertrophied—instance, large white, lardaceous and serofulous kidneys, as well as some cases of granular contracted kidneys. Dr. Johnson has endeavored to account for the absence of the hypertrophy in such cases by assuming that the muscle of the heart is imperfectly nourished. The authors consider this suggestion, and state this may explain a dilatation disproportionate to the hypertrophy, but it does not explain how a normal-sized heart acquires additional force requisite to overcome the supposed obstruction. Evidence is next brought forward to show that the cardiac hypertrophy is induced by the morbid changes referred to in the vascular system, the heart being found hypertrophied in all the cases in which the vessels were much and generally thickened by hyalin-fibroid change; slightly hypertrophied where the vessels were little thickened; and greatly hypertrophied where the vessels were much thickened, although there might be little or no kidney disease. The hyalin-fibroid change is assumed to impair the elasticity of the vessels, thus imposing upon the left ventricle a necessity to contract with greater force to carry on the circulation.

The other conditions which make up the morbid state known as chronic Bright's disease are next noticed—namely, vesicular emphysema, retinitis albuminurica, atrophied brain, contracted spleen, and morbid changes in the intertubular parts of the stomach. In all these conditions it is shown that the arterioles are more or less thickened by fibroid or hyalin-fibroid changes. This general morbid state is shown to belong principally to the period of life at or after forty years of age, and after forty its frequency greatly increases as age advances. It is pointed out that the kidneys, even in children or in other young persons under adult age, are sometimes much contracted and death caused by uræmic poisoning, without the cardio-vascular changes alluded to. But the general hyalin-fibroid change in the vessels may occur in early life; and, in proof, the case of a girl, aged nine years, is mentioned, where the kidneys

were granular and very contracted, the heart hypertrophied, and there were hyalin-fibroid changes in the arterioles of the pia-mater.

The authors desire to show that in the state known as chronic Bright's disease with contracted kidney, the morbid changes described do not arise in a constant order. In some cases the changes seem to commence in the kidneys or in the heart, sometimes in the lungs or in the brain, or in other organs; hence the symptom of the disease varies very much in different cases. In all cases, whether many or few organs are affected, the minute arteries and capillaries are altered by hyalin-fibroid formation, attended with atrophy of the adjacent textures. The authors cannot regard the functional disturbances which occur in many organs during chronic Bright's disease with contracted kidney as dependent on blood changes only or chiefly—as, for instance, pain in the head, discomfort after food, palpitation, dry skin, epistaxis, etc. These are probably due not so much to changes in the blood as to changes in the tissues themselves.

The conclusions arrived at in the paper may be briefly summed up as follows: 1. There is a diseased state characterized by hyalin-fibroid formation in the arterioles and capillaries. 2. This morbid change is attended with atrophy of the adjacent tissues. 3. It is probable that this morbid change commonly begins in the kidney, but there is evidence of its beginning primarily in other organs. 4. The contraction and atrophy of the kidney are but part and parcel of the general morbid change. The kidneys may be but little, if at all, affected, whilst the morbid change is far advanced in other organs. 5. This morbid change in the arterioles and capillaries is the primary and essential condition of the morbid state called chronic Bright's disease with contracted kidney. 6. The clinical history varies according to the organs primarily and chiefly affected. 7. In the present state of our knowledge we cannot refer the vascular changes to an antecedent change in the blood, due to defective renal excretion. 8. The kidneys may undergo extreme degenerative changes without being attended by the cardio-vascular and other lesions characteristic of the condition known as chronic Bright's disease. 9. The morbid state under discussion is allied with the conditions of old age, and its area may be said hypothetically to correspond to the "area vasculosa." 10. The changes, though allied with senile alterations, are probably due to distinct causes not yet ascertained.

Dr. Broadbent must say that, if he had to give up the idea that what he had seen in the preparations of hypertrophied arterioles was muscular, he would have to give up altogether the muscularity of the walls of arteries. Dr. Johnson said that the thickening was due to muscular hypertrophy; Sir William Gull and Dr. Sutton ascribed it to what they called hyalin-fibroid deposit. It was stated that it could not be dependent on this form of kidney disease, because it was not met with in other forms, but the blood was not in the same state in all forms of renal disorder. The authors stated that cardio-vascular hypertrophy was not constant in granular contracted kidney. True, but the exceptions were rare, and did not prove anything against Dr. Johnson's theory. If the changes in the vessels were degenerative, their walls should be rendered inelastic, arterial tension and the power of contraction and relaxation being lost. But he had seen a case of granular kidney with well-marked cardio-vascular changes (a long persistent pulse, hypertrophy of the heart, and reduplication of the first sound), in which one day all these conditions had disappeared, and the pulse had become pyrexial; these physical variations were inconsistent with the theory of rigid tubes. He had also known under the use of nitrite of amyl evidence of arterial tension appear in cases where it had previously been absent.

Dr. George Johnson said the question is, what is the nature of the thickening of the walls of the minute arteries in the kidney and in most of the tissues in cases of chronic Bright's disease? He maintained that the thickening was a genuine hypertrophy of the muscular coat of the artery, while the authors of the paper denied the existence of hypertrophy, and declared that a hyalin-fibroid degeneration external to the muscular coat constituted the essential change. The question was to be decided by an appeal to actual

specimens, and not by arguments. He had placed specimens on the table, which had been declared to be examples of hypertrophy by large numbers of men, including Dr. Sharpey, Dr. Carpenter, Sir James Paget, and Dr. Rutherford. He was surprised to find that the authors had not produced their specimens. He suggested, from the appearance of the drawings, that the authors had described as pathological that swollen and translucent appearance of the tunica adventitia which was commonly produced by the imbibition of fluid, especially when with that fluid is mixed glycerine or dilute acetic acid.

Dr. Silver said that the point which was of practical importance was the condition of the urine. In some forms of contracted kidney this was large in quantity, containing little albumen or urea; and this enlarged quantity of fluid must arise from increased pressure on the part of the vessels, while the small amount of albumen showed that the filtering portion of the kidney was not much affected. This condition appeared capable of explanation by Dr. Johnson's theory of general hypertrophy of the arteries, by which the blood-pressure in the kidney was increased.

Mr. Brudenell Carter said the changes in the retina were once supposed to be pathognomonic of albuminuria, but it was now known that they might be present without that symptom. Again, there was no constant relation between the retinal and the renal affections. In many cases of Bright's disease the retina escaped for a long period; in some cases it escaped altogether. In many others, on the contrary, the troubled retina was the cause of the patient's seeking advice; and the ophthalmoscopic examination first led to the discovery of albumen in the urine. The retinal changes, again, differed greatly in different instances—the white patches sometimes preceding, sometimes following, the characteristic hemorrhages. On the whole, the weight of evidence was opposed to the supposition that the retinal was an effect of the renal disorder, and was in favor of the supposition that both were the effects of some more general cause, and that each, for a certain time at least, might exist independently of the other.

Dr. Anstie asked Dr. Broadbent whether he was aware of the extent to which the muscular tissue of the arterioles remained sufficiently intact to be sensible of the action of nitrite of amyl, even in very advanced states of degeneration. He (Dr. Anstie) had given nitrite of amyl to patients in whom the arterioles must have been extremely degenerated by the effects of old age; nevertheless, the usual dilatation was well marked—indeed, alarmingly so.

Mr. Hulke said that he had found in the retina (associated with albuminuria) true muscular hypertrophy of the arteries, and also true sclerosis, two conditions perfectly distinct, but sometimes commingled—i. e., hypertrophy followed by sclerosis.

Dr. Rutherford thought that an examination of the microscopic specimens exhibited by Dr. Johnson was sufficient to satisfy any impartial observer that there is a positive increase in the number of muscular fibres in the walls of the vessel. In Dr. Johnson's preparations the appearances are indicative of hyaline-fibroid as well as the results of the so-called capillary fibrosis.

Dr. Symes Thompson briefly subscribed his belief in Dr. Johnson's views.

Sir William Gull, in replying, said that the object of the paper was important in a therapeutic sense. The somewhat antithetical views set forth in the paper deserved the fullest discussion, whether the affection began, according to former pathologists, locally in the kidney, and so, by extension of morbid influence through the blood, producing a change in the heart and arteries, or whether the disease had, as it was now attempted to show, a more general beginning in the arterioles, the kidneys becoming contracted as a part of the general morbid change. Dr. Broadbent's argument that the cardiac and vascular changes might be limited to one form of renal disease, and not producible by other forms of kidney degeneration, was at present an hypothesis only, and not supported by the fact that extreme contraction and degeneration of the kidneys, in young persons did not produce the cardiac and vascular changes which on such supposition should occur with it. Dr. Bastian and Dr. Dickinson gave clinical evidence supporting the views advocated in the paper; the former pointedly stated that dyspnoea was one of the early symptoms, and the

latter said that in the early stage of the disease the urine is free both from albumen and casts. The clinical history of chronic Bright's disease, though not included in this paper, seemed distinctly to show that the renal affection may be developed at different stages of the disease. Sir William Gull concluded by saying that it had long been a dream of the authors of this paper that the lines of pathological change in later life, so far as they were essential, in contradistinction to merely accidental influences, would be found to correspond with the lines of early development. Chronic Bright's disease with contracted kidney appeared to the writers of the paper to belong to the *area vasculosa*. He wished emphatically to record that his colleague, Dr. Sutton, must properly claim whatever credit was due with reference to the morbid anatomy of the subject.

Dr. Sutton, in reply, said that the changes observed in the vessels were dependent on a diseased condition, for a great number of specimens prepared in the same manner had been examined, and the vessels taken from persons accidentally killed, or who had died from tuberculosis fever, or other acute diseases, did not present this hyalin fibroid appearance, which showed the condition to be a morbid one. Where the vessels had undergone the hyalin fibroid change, the kidneys were found diseased, or there were cardiac hypertrophy and the other morbid conditions commonly found in chronic Bright's disease. He thought that the thickening of the arterioles was not dependent on muscular hypertrophy.

ART. 66.—*Treatment of Lithiasis.*

By LEONIDAS CREWS, M.D.

(*Atlanta Medical and Surgical Journal*, June.)

In lithiasis, with frequent micturition, ardor urinæ, etc., without renal or cystic calculi, Dr. Crews has repeatedly given bromide of potassium with tincture of belladonna, and can confidently recommend them.

ART. 67.—*Renal Disease following the External Use of Juniper Tar.*

By Dr. KIRCHHEIM.

(*Berliner klin. Wochenschr.*, and *British Medical Journal*, July 6.)

Dr. Kirchheim relates the case of a man, aged 23, suffering from eczema, for whom a mixture of Juniper tar (*huile de cade*) and glycerine was ordered for external application. After he had applied it about three days, he felt unwell, had headache, lost his appetite, and his urine was scanty, dark-colored, and cloudy. These symptoms were followed by pain and tenderness in the region of the kidneys, œdema of the lungs (and afterwards pneumonia), and albuminuria. He was treated with benzoin and warm baths, and with iron and quinine as tonics, and recovered after an illness of two months.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 68.—*The Therapeutics of Diseases of the Skin.*

By J. McCALL ANDERSON, M.D., Professor of Practice of Medicine in Anderson's University.

(*Diseases of the Skin*. Pp. 180. London. 1872.)

In the treatment of diseases of the skin, as of most other complaints, it will be found that there are often different ways of arriving at the same goal. In Germany, especially in Vienna, local treatment, Dr. Anderson states, is principally relied upon, while in England it appears that constitutional treatment is too exclusively resorted to. Some diseases of the skin, the author writes, are

best treated by local, others by constitutional, treatment, while a few may be cured by either; but the majority of them yield most readily, and are removed most permanently, by a mixed local and constitutional treatment. In speaking of purgatives or aperients, Dr. Anderson says they are of service in a large proportion of cases, at the outset at all events, and many can be cured by the exclusive use of them. This is especially true of the eczematous group when seen in the early or acute stage, and when associated with digestive derangement or constipation. In doubtful cases it is safer to inaugurate the treatment with aperients; but it must never be forgotten that where debility is well marked, or where there is a decided tendency to ulceration, great caution is required in the use of purgatives. A very excellent aperient is the well-known sulphate of magnesia and sulphuric acid mixture, to which, if there is a gouty tendency, a little wine of colchicum, or, if anæmia, sulphate of iron, may be added as follows: Sulphate of magnesia, three ounces; dilute sulphuric acid, an ounce and a half; sulphate of iron, three drachms; simple syrup, four ounces; tincture of ginger, one ounce; infusion of quassia to twenty-four ounces; a tablespoonful, in a good deal of water, three times a day.

Another very useful tonic aperient, especially if the bowels are easily moved and there are indications of nervous debility, is the following: Phosphate of soda, three ounces; dilute phosphoric acid, two ounces; syrup of ginger, four ounces; compound infusion of gentian, eight ounces; distilled water to twenty-four ounces; shake the bottle. A tablespoonful, in a large wineglassful of water, to be taken three times a day. As so many affections of the skin occur in connection with, if not in consequence of, the system being below par, *tonics*, especially iron and arsenic, are frequently indicated. With the exception, however, of *arsenic*, which is the great cutaneous tonic, it is unnecessary to point out the indications for their use, as these are the same as in the treatment of disease in general. There is much difference of opinion as to the use of arsenic, and while Dr. Anderson is altogether opposed to those who are inclined to disparage its virtues, he is equally opposed to the view that almost all affections of the skin should be treated by means of it. At the present time the author of this excellent brochure contents himself with a very few remarks, which, for the sake of brevity, he makes in the form of aphorisms:—

1. Arsenic, judiciously administered, is as safe a medicine as any in the pharmacopœa, and may often be used for months without injury to the general health.
2. It often requires to be continued for many weeks, and sometimes the disease seems to resist its action for a considerable time, when all of a sudden improvement occurs, followed by a rapid cure.
3. It requires to be given in proportionately larger doses to children than to adults.
4. Infants may be subjected to its influence by administering it to their nurses.
5. The dose should be at first small, and not increased, as a rule, for some time. Then it may be gradually increased till the medicine disagrees, or till the disease begins to yield, when it may as gradually be diminished.
6. It should not be omitted altogether without very good reason, but may be tried in smaller doses, or in another form, or omitted for a few days till the bad effects have passed off.
7. Puffiness of the face, or irritation of the eyes, or such like physiological effects, if slight in degree, should not lead us to discontinue the medicine; indeed, it is sometimes only then that its beneficial action on the disease is observed.
8. It is decidedly contra-indicated in acute cases; and when its use is followed by marked increase of the irritation of the skin (itching, heat, etc.) the disease is probably not in a state to be benefited by it.
9. It is generally more rapidly effectual if the disease, though in a chronic state, is recent; and the first attacks yield more readily to it than subsequent ones, as a rule.
10. It is contra-indicated in most cases which are complicated with digestive derangement.
11. It is apt to produce bronchial catarrh, so that patients should be warned

to avoid exposure to cold while taking it; and for this reason it is generally contra-indicated in persons laboring under bronchitis.

12. In exceptional cases it may be given with benefit in large doses.

13. It sometimes requires to be given during meals, or immediately after food is taken; for when administered on an empty stomach it occasionally deranges the digestive organs, and it is often better tolerated if given along with a bitter infusion.

14. It should not, as a rule, be entirely discontinued until some weeks have elapsed since the complete disappearance of the eruption.

15. There are few chronic diseases of the skin of constitutional origin—provided they are not syphilitic—which may not be benefited by it (although often other treatment is to be preferred to it), but it is especially valuable in psoriasis, pemphigus, lichen ruber, pityriasis rubra, and in many cases of eczema, unless contra-indicated as above.

ART. 69.—*Report on Cutaneous Statistics, derived from the Practice of the Belfast Hospital for Skin Diseases.*

By HENRY SAMUEL PURDON, M.D., Physician to the General Hospital, also to the Hospital for Skin Diseases, Belfast.

(*Dublin Journal of Medical Science*, October.)

In this paper Dr. Purdon directs attention to the statistics derived from the practice of the Belfast Hospital for Diseases of the Skin. The total number of cases observed during the last seven years amounts to 5747.

The only variety of *erythema* worthy of note, and of frequent occurrence amongst factory workers, who go barefooted and stand at their work for hours, is *erythema nodosum*. *Eczema*, with the exception of scabies, is the most common form of skin disease. For acute cases painting the part attacked with a solution of nitrate of silver dissolved in sweet spirit of nitre, and subsequently covering with zinc ointment, or an ointment of zinc, prepared chalk, and a few drops of carbolic acid, to allay itching, is the plan adopted. If the part be covered with hair, dilute citrine ointment and carron oil answers admirably. For chronic cases Hebra's methods of treatment with solutions of potassa fusa, tar, oil of cade, black soap, etc., are adopted. Carbolic acid has not succeeded in the author's hand in eczema, although highly valuable in psoriasis where there is not much hyperæmia of the skin, used both outwardly and internally. He agrees with Mr. Erasmus Wilson, that the cause of eczema is debility, and adopts his arrangement—viz., into assimilative, hereditary, neurotic, and local, as the best and most satisfactory division of its causes. Arsenic has not been much used in the treatment of eczema at the hospital, as when the disease is generally seen it is chronic, has become purely a local disease, accompanied by alteration in the cutaneous textures, and hence must be treated by local means. *Acne* is in the majority of cases due to stomach derangement, occasionally to uterine trouble. For hypertrophic acne nothing excels Mr. Wilson's hypochloride of sulphur ointment. All cases of *herpes zoster* (viewing this affection as a neurosis) have been recently treated with ergot of rye and steel, and that most satisfactorily, whilst locally merely zinc ointment or painting the vesicles with collodion was all that was considered necessary. During last year two cases of *urticaria* were beautiful examples of *urticaria annulata*, a rather rare variety. *Colchicum* was the remedy mainly relied on, followed by the hypophosphite of soda. The case of *dermatalgia*, or neuralgia of the skin, occurred in one person on the scalp; patient an adult male, who got well with pulv. ferri carb. and pulv. valerian, assisted by hypodermic injection of morphia. Dr. Purdon's case of *morphea*, which disease shows a degeneration or degradation of tissue, derived only temporary benefit. The treatment of *scabies* has been often varied: Hebra's ointment, compound sulphur ointment, iodide of potash ointment, and solution of pentasulphide of lime are those generally used. The secondary eczema left after removal of original complaint had been attended to afterwards. *Alopecia areata* is usually chronic. Constant blistering with the linimentum cantharidis and attending to

the general health gives, although slowly, good results. This affection the author has placed amongst the parasitic diseases, but more accurate information is required regarding its supposed fungoid nature. He prefers, however, to leave it where it is at present. He has never detected the fungus called the *microsporon Audouini*. Recent observers believe the disease to consist of an atrophied condition of the hair bulb, whilst, on the other hand, Tilbury Fox, McCall Anderson, and Bazin hold to the parasitic view. Some years ago, when studying cutaneous diseases in London, Dr. Purdon was much struck by the frequency of alopecia areata there, compared with Glasgow, Dublin, Edinburgh, or Belfast, in all of which towns he had opportunities of seeing cutaneous practice. *Favus* is rare in England, and not so common in Ireland as in Scotland. McCall Anderson's statistics show 166 cases of favus occurring in 11,738 skin diseases of all kinds, whilst his exhibit 21 cases in 5747. The cases classed in the author's report as *favus et tinea cincinnata* are interesting as showing the two diseases existing together. The Sydenham Society have published in their Atlas a very good plate of these two diseases occurring in the same individual. This supports the theory of only one fungus causing this group of diseases, which in a more matured form and stage of growth may give rise to favus. *Sycosis*.—One case of sycosis is worthy of note. By this disease Dr. Purdon means *parasitic sycosis*. The patient to whom he more particularly refers was aged 58, and worked in a foundry. Both he and his son-in-law were attacked at the same time and with the same affection. The elder had tubercles the size of a walnut under his chin, slowly suppurating; in fact every part of his face that had hair upon it was involved. The treatment pursued was extracting the hairs by Bazin's forceps, made by Mathieu, Paris, then a solution of the bichloride of mercury, two grains to the ounce, was rubbed in, a little sweet oil being finally applied. After the disease seemed arrested, dilute citrine ointment, also a solution of nitrate of silver, were used. Quinine was given from the first. *Seborrhœa sicca*, or "dandriff," generally commences on either temple, extending backwards, and leaving a central region covered by hair; the baldness produced is usually permanent. The application of a lotion containing tannin, ether, glycerine, compound spirit of lavender and rectified spirit, has been found useful. *Onychia* is very common amongst female mill-workers in flax-spinning mills. They go barefooted, and a slight injury to the toe causes the disease, which is aggravated by the impure water, etc., on floor of spinning room. *Xeroderma* was principally met with in children, being congenital. Small doses of antim. tart., and locally, cod liver oil or glycerole of starch, improved their condition. A case of *cutaneous horn* occurred in a middle-aged female servant. It was of some six or seven years' growth, and commenced like a common wart. The seat of the affection was left malar prominence, and its length about a quarter of an inch. *Elephantiasis Arabum*.—One case, thirty-three years in duration; both legs affected, and right enormously swollen; hard and brawny; covered by the peculiar scaly skin of elephantiasis; patient formerly a house-painter; an extensive ulcer complicated the disease. The other cases women. Pressure with a tourniquet over femoral artery, when lower limb is attacked, should be tied before proceeding to tie that artery for cure of disease. A case of *Tubercular Leprosy*, contracted in India, had been round the principal English hospitals and tried various plans of treatment. Anæsthesia was well marked over calves of legs and right forearm and hand; countenance frowning; alæ of nose ulcerated, as also fingers; could allow his arm to be cut or burnt, the anæsthesia was so complete; appetite good, as also memory. Carbolic acid internally and locally was tried, as lately recommended for leprosy; it made the anæsthesia worse. He had, just before coming under Dr. Purdon's care, been taking hydrocotyle asiatica, but without any benefit. *Lupus Erythematosus*, or *seborrhœa congestiva* of Hebra, was met with in four instances. It is a very obstinate disease to treat. Frictions with juniper tar soap and the application of a weak iodide of sulphur ointment were used. For ordinary lupus, nitrate of silver points, potassa fusa, and the solution of the acid nitrate mercury, and in some cases painting with a hot solution of liquor plumbi, are those remedies in general use at the hospital. Of course they are not used indiscriminately, but suitable cases selected for

using the different substances; whilst in a few cases the local means were assisted by the use of Neligan's solution of arsenic, iodine, and iodide of potassium. Epithelioma was treated in a few instances, as well as Rodent ulcer, with a saturated solution of chlorate of potash, a little opium being added to prevent pain. Operative interference had to be used in several cases. Some of the cases of syphiloderma were complicated by ulcerated throats, for which sulphurous acid spray was used, with one of Dewar's spray producers, and which had the desired effect in all cases.

ART. 70.—*A Case of Lupus of seven years' standing successfully Treated by Large Doses of Iodide of Potassium.*

By ROBERT MUNRO, M.A., M.D.

• (*The Lancet*, October 19.)

The following case is worthy of being recorded, inasmuch as it is an additional evidence of the great value of iodide of potassium as a therapeutic agent in a class of diseases that have almost become an opprobrium to the healing art.

S. S.—, a strong, muscular man, of a ruddy complexion, and twenty-seven years of age, consulted Dr. Munro about the middle of May, 1872, in regard to a lupus in his nose and face. The disease was of seven years' standing, and, besides involving the nose, the upper lip, the mucous membrane of the nostrils, and rather more than a square inch of the roof of his mouth, it extended in an irregular patch for about two inches down both cheeks. There was a slight but offensive discharge from the ulceration, and his breath had a fetid odor, which was thought to proceed from the ulcerated roof of his mouth. He was dispirited about his case, as he had already consulted many of the most noted surgeons in Kilmarnock and in Glasgow without benefit. From a written account which he gave of his own case, Dr. Munro could not gather much information in regard to his past treatment. Six years ago an eminent surgeon recommended him to have the diseased portion removed by the knife, but this he declined. A distinguished professor recommended some ointment, which he says, had no effect whatever on his face. Others told him it was cancer and incurable. Latterly he fell into the hands of quacks, and had a plaster (probably arsenical) applied to the sore. In concluding his report he says: "I returned to Dr. — again, as I did time after time, as a fox to his hole for safety." No syphilitic history could be elicited. About a year ago Dr. Munro saw a woman in Kilmarnock with psoriasis guttata, who had been taking arsenic for nearly twelve months without any benefit, except irritation of her eyes, but in a few weeks she got better under the internal administration of carbolic acid. This woman was a sister of the patient with lupus. The patient stated that his father at certain seasons of the year had spots on his legs and arms similar to those on his sister. Thus psoriasis seems to have been in the family.

Dr. Munro at once commenced the treatment of the lupus by giving ten-grain doses of the iodide of potassium three times a day. On one cheek the disease was attached to the nose only by a narrow isthmus; and, wishing to observe the effect of a caustic on the sore he brushed over the whole of this newly isolated portion on the cheek by the acid nitrate of mercury. The crust dropped off in a few days, and left the sore with a much more healthy appearance. At intervals of about a week other portions of the disease were touched with this caustic, until at the end of six weeks Dr. Munro had gone over the whole of the surface of the disease, so far as it manifested itself externally. Each crust was removed by poultices, and the sores then dressed with the following lotion: Carbolic acid, three drachms; sulphate of zinc, eighteen grains; water, twelve ounces.

About three weeks after the treatment was commenced the iodide of potassium was increased to one-scruple doses three times a day, and three drops of the liquor arsenicalis added to each dose. The progress of the case was very satisfactory; and about the beginning of August the patient's face was completely skinned over, and since then it has remained perfectly well.

ART. 71.—*On Iodide of Potassium in Syphilitic Skin Disease.*

By J. McCALL ANDERSON, M.D.

(Diseases of the Skin. Pp. 180. London. 1872.)

With regard to the employment of iodide of potassium in the treatment of syphilitic skin diseases, Dr. Anderson lays down the following rules:—

1. The longer the interval which has elapsed between the contraction of the syphilitic taint and the development of the eruption, the more confidently may we substitute it for mercury.

2. If the patient is cachectic it is, as a rule, to be preferred to mercury, except in recent cases of syphilis, when the mercurial vapor bath, or some such treatment, is more likely to prove successful.

3. The more extensive the tertiary eruption the more certain it is to yield to the iodide of potassium, although to this rule there are numerous exceptions.

4. If there is any tendency to syphilitic disease of the nostrils or neighboring parts iodide of potassium should be withheld, or given with great caution, for if it produces coryza it is very apt to aggravate the morbid condition of the parts.

5. It should be given in full doses. Dr. Anderson's experience has led him to conclude that ten grains is the proper dose in the majority of cases, and that occasionally as much as thirty or forty thrice daily may be requisite. It is generally advisable to prescribe it in combination with a bitter, and in cachectic subjects a little iron is a valuable addition, as in the following prescription: Ammonio-citrate of iron, three drachms; iodide of potassium, one ounce; syrup of ginger, six ounces; compound infusion of gentian, eight ounces; water to twenty-four ounces. A tablespoonful in a large wineglassful of water thrice daily.

ART. 72.—*Chloral as a Topical Application in Eczema.**(Boston Medical and Surgical Journal; and New York Medical Record, October 1.)*

A correspondent states that during the past year he has used in several cases of chronic eczema, with much satisfaction to his patients and himself, a solution of the hydrate of chloral as a topical remedy, in the proportion of one or two drachms to a pint of water, applied two or three times a day.

ART. 73.—*Erythema Fugax following the Use of Chloral.*

By WILLIAM INGALLS, M.D.

(New York Medical Record, October 1.)

At a meeting of the Suffolk District Medical Society, Boston, Dr. Ingalls called attention to a symptom he had observed after the administration of chloral hydrate. He had prescribed a dose of six grains to be given for sleeplessness to a girl of eleven years, ill from general debility. After the first dose, nothing save the desired effect was observed. Sleep also followed the second exhibition the night following, but on the next morning spots of a red color, deeper in hue than erythema, appeared successively on the cheeks, around the mouth, and behind one ear. There were no other symptoms, and the redness receded after eight hours.

Dr. Damon suggested that the appearance alluded to might be classed as erythema fugax, a neurosis of the skin depending on some such irritation of the stomach as chloral would tend to produce.

ART. 74.—*On Carbolic Acid in Skin Diseases.*

By J. McCALL ANDERSON, M.D.

(Diseases of the Skin. Pp. 180. London, 1872.)

Carbolic acid is especially useful in cases of chronic psoriasis, when the patches are not much infiltrated, and not unfrequently Dr. Anderson says he has succeeded in removing the eruption after a fair trial of arsenic, although, on the whole, it is not so useful as the latter. The following case may prove interesting in connection with the above remarks:—

Psoriasis.—A lady, aged about thirty-five, who had undergone much anxiety and fatigue in nursing a sick child, was attacked for the first time with psoriasis. The patches, on an average about the size of florins, were of a dusky red tint, but not scaly. They were very numerous, especially upon the arms and legs. She felt weakly and was incapable of much exertion, and the feeling of fatigue and lassitude was very marked at times; otherwise her health was good. She was subjected to an arsenical course by her medical attendant, but without benefit. She then consulted Dr. Anderson, when, the arsenical course having failed, four grains of carbolic acid in solution was prescribed thrice daily. There was immediate improvement. The feeling of lassitude and exhaustion diminished, the eruption began to fade, and in a few weeks she was quite well.

SECT. III.—FORENSIC MEDICINE.

ART. 75.—*On the Diagnosis of Phosphorus Poisoning by Means of a Sign Furnished by the Urine of the Patient.*¹

By M. POULET.

(Gazette Médicale de Paris, No. 33, 1872.)

Phosphorus having been absorbed by the digestive passages is eliminated in the urine in the condition of hypophosphoric acid.

The presence of hypophosphoric acid in the urine may be easily detected by calcination, pure nitric acid having been previously added.

As the specimen of urine approaches the state of dryness, a very remarkable phenomenon may be observed; the mixture suddenly takes fire and burns like a packet of matches.

Poisoning by phosphorus, especially when slow, may be, and indeed has been, confounded with certain quite spontaneous internal affections, amongst which gastritis and fatty degeneration of the liver occupy the first place. An analysis of the urine by this very facile proceeding furnishes a certain diagnostic sign, and may in suspicious cases enlighten the practitioner and set him upon the track of the terrible truth. For the future, then, so precious a means of investigation ought not to be neglected.

It is possible for a criminal intention to simulate more or less perfectly an internal malady, inflammatory or otherwise, by prolonging the life and sufferings of the victim by a coolly-calculated diminution of the doses of the poison. Hence two equally unfortunate results are realized: a very execrable crime remains unpunished, and therapeutics is completely hoodwinked, to the great detriment of the patient.

It would be necessary, M. Poulet thinks, to include ordinary phosphorus among the poisonous substances the sale of which is prohibited, and to replace with amorphous phosphorus that which serves for the fabrication of matches.

¹ Communicated to the Académie des Sciences, Paris.

ART. 76.—Poisoning by Vanilla.

(*Boston Medical and Surgical Journal*, August 1.)

A correspondent, in speaking of cases of poisoning by vanilla flavoring, stated that in his own family evident and violent poisoning from a similar cause recently took place. Five members of the family were affected, all of whom had partaken of custard flavored with vanilla, and two, who had not eaten, escaped. The symptoms were severe diarrhœa with violent pain in the lower abdomen, without much gastric disturbance.

ART. 77.—On the Use of Bromide of Potassium in the Bite of Rattlesnake.

By E. A. ANDERSON, M.D.

(*American Journal of the Medical Sciences.*)

Dr. Anderson gives the details of two cases in which the above treatment was successfully employed. Large doses of alcohol were administered at the same time. The first case occurred in 1867, the patient being a young lady who was bitten in the hand while picking some violets. The pain was excruciating, and the local and general symptoms were of the most dangerous character. Whiskey was given in large doses every fifteen minutes, and fifteen grains of bromide of potassium every hour. At the end of four hours relief was obtained, as was shown by the returning warmth of the surface of the body, the diminution of pain, and sleep. The patient eventually recovered, although the bitten part sloughed away. Dr. Anderson remarks that many cases of rattlesnake bite recover under the exclusive use of alcohol, but many die in spite of its employment. He attributes the successful result of the case recorded in great measure to the bromide, which allayed pain, produced sleep, and seemed to cut short the dangerous symptoms, and he is satisfied that death would have ensued if stimulants only had been employed. The other case was that of a young negro, and occurred in 1870. The man was bitten by an enormous rattlesnake in the knee. The symptoms were similar to those recorded in the first case, and were so severe that the patient appeared moribund. Brandy was poured down his throat, however, at regular and short intervals, and, as soon as he was able to swallow, twenty grains of bromide of potassium were given every hour, until he had taken 240 grains. Recovery was gradual but complete.

ART. 78.—Two Cases of Poisoning by Leaves of the Privet.¹

By J. DANIEL MOORE, M.D., F.L.S., Lancaster.

(*British Medical Journal*, August 24.)

"The common privet of our gardens (*Ligustrum vulgare*) has long been considered as a vegetable poison, and a few instances are upon record in which children have died from eating the berries of the plant; but the occurrence of poisoning by the leaves or young shoots of the plant has never as yet been recorded. During the last few weeks, in the month of April, two cases of this character have been under my care, of which the following are the principal symptoms.

"The father of a child, aged about nine years, requested me to see his little boy, whom he described as being feverish and drowsy. The child seemed to lose himself; did not answer questions put to him without much persuasion,

¹ Read before the Public Medicine Section at the Annual Meeting of the British Medical Association in Birmingham, August, 1872.

and then evidently with great difficulty. On going to bed, the child tried to say his prayers, but after the first sentence or two stopped short, as if he were drowsy or had forgotten them, and, on being roused, commenced again, but with the same result. The father then noticed some twitching of the hands and arms, and deemed it necessary to have immediate medical advice.

"When I saw the patient first, he was in bed; he had been much purged, the evacuations being of a greenish color; he was semicomatose, seemed to be quite unable to speak, and was, with difficulty, made to understand that he was required to put out his tongue. The temperature of the head and body was above the normal, and in a short time there was a cold perspiration. There were convulsive movements, at first noticed particularly on the right side; the hands were clenched and the feet drawn up; the pulse quick and small, the respiration somewhat hurried. There was some tenderness of the abdomen upon pressure. These symptoms increased in severity during several hours and the purging continued, accompanied with severe vomiting; the vomited matter evidently containing small particles of green leaves, the fragments being too small to afford any idea of the plants from which they had been taken. The convulsions became more general and severe; the head was frequently thrown back during the convulsions, in a condition somewhat resembling slight opisthotonos.

"A second child, about six years of age, was seized with purging in the course of a few hours, and presented similar symptoms in every respect. Both of them recovered slowly from the effects of the toxic agent. There was, for some time, much loss of power, especially of the lower extremities; one of the children, on attempting to walk, making use of the expression, 'that his legs would not do as he wanted them.' On their complete recovery, the elder child went with me into the garden, and pointed out the plant from which he said they had plucked and eaten the leaves and young shoots, thus clearly identifying the poison as being that of the common privet."

ART. 79.—*On a Rare Mode of Death in Infants.*

By T. JANEWAY, M.D.

(*New York Medical Record*, July 1.)

At a recent meeting of the New York Pathological Society, Dr. Janeway exhibited an interesting specimen. The infant died two days after birth. The mother had very protracted labor, the first stage being twenty-six and a half hours. The child did well for the first twenty-four hours, when it grew pale, passed no urine, and, in the course of the day, died. At the necropsy, the peritoneal cavity contained eight ounces of thick black fluid blood, which had its source in a detachment of the peritoneum from the upper part of the right lobe of the liver. The area of detachment was two inches square. All the other organs were normal. The kidneys contained urates in the tubes. This was the third specimen of the kind Dr. Janeway had seen, and, as far as he recollected, in both of the others the labor was protracted. This was the only one, however, in which the effusion was upon the upper lobe of the organ.

ART. 80.—*On Strychnine and Chloral.*¹

By M. ORÉ.

(*Gazette Hebdomadaire*, No. 31, 1872.)

1. Not only does an intravenous injection of one milligramme of strychnine (a fatal dose for a rabbit of two kilogrammes) fail to prevent the animal, when placed under the poisonous influence of four grammes of chloral, from succumbing, but the presence of the alkaloid is not manifested by any characteristic spontaneous phenomena.

¹ Communicated to the Académie des Sciences, Paris.

2. The *intravenous* injection of two and a half milligrammes of strychnine occasions well-marked spontaneous convulsions. In one experiment, although it did not prevent death, it seemed to retard it. The animal died with all the symptoms of poisoning by chloral.

3. In proportion as the dose of strychnine is increased death occurs with greater rapidity, and the poisonous action of the substance becomes more marked.

4. If the dose be increased to beyond seven and a half milligrammes, the action of the chloral is then *completely effaced*, and the animal dies from strychnine. *The antidote thus becomes a poisonous agent.*

5. Whenever one attempts to oppose the effects produced by chloral administered in a fatal dose by means of strychnine, introduced either hypodermically or into a vein, the animal always succumbs, most frequently in consequence of the action of the former agent, sometimes from the latter agent.

6. Strychnine, then, is not an antidote to chloral.

ART. 81.—*Belladonna as an Antagonist of Opium.*

By HASFORD WALKER, M.D.

(*American Journal of the Medical Sciences*, January.)

Dr. Walker reports a case the treatment of which favors the practice of employing belladonna as an antidote for opium, after poisoning by the last-named narcotic. On the night of July 24th, 1871, he was called to see a patient who had swallowed, inadvertently, a large quantity of a concentrated tincture of opium, the dose taken being considered equivalent to about six or eight grains of opium powder. Dr. Walker found his patient, a girl of fifteen years of age, completely comatose, and on opening her eyelids and placing his fingers on the conjunctiva there was no sensibility whatever evinced. The pupils were very much contracted; the respiration was stertorous and difficult; the pulse was full, slow, and laboring; a dark suffusion was exhibited on the countenance, and there was almost a total absence of sensibility to external impressions.

Without delay Dr. Walker, with some difficulty, on account of the almost paralyzed condition of the muscles of deglutition, administered emetics of mustard and ipecacuanha, followed by copious draughts of warm water; he also tickled the fauces with a feather, and thus endeavored to produce vomiting. In this endeavor he failed, and, not having a stomach-pump, he had recourse to the hypodermic injection of belladonna. He thus administered one grain and a half of the alcoholic extract of belladonna, and with an effect which he says was "magical." The pupils, from a state of extreme contraction, became dilated, and copious emesis followed in a few minutes.

As soon as the contents of the stomach were evacuated, the patient being much more prostrated, strong coffee and stimulants were administered, both hypodermically and by the mouth, and in the short space of ten hours from the exhibition of the poison the patient had sufficiently recovered to recognize and speak to those about her. She suffered no inconvenience as a result of this treatment, except a slight degree of inflammation for a day or two from the punctures made by the hypodermic syringe, and which readily yielded to the treatment by cold applications.

ART. 82.—*Belladonna in Opium Poisoning.*

By R. D. BONE, M.D.

(*Nashville Journal of Medicine and Surgery*, August; and *The Medical Record*, September 16.)

A case of resuscitation from opium poisoning by enemas of solution of belladonna, until ten grains were given, is mentioned by Dr. R. D. Bone, of Larissa, Texas. The patient was a child aged seven months, who, through mistake of the mother, took two grains of morphia solution. When first seen it was in

a state of profound coma, complete anæsthesia, livid and cold surface, pupils contracted to a mere point, no perceivable circulation in extremities, breathing stertorous, and from two to four respirations per minute. In two hours afterwards the child cried, and entire recovery followed. Although the *certainly* of the antidotal effects of belladonna in opium poisoning may be questioned, he is confident, in this case, it was the medium through which the effects of the morphia were displaced, and the life of the child saved.

The subsidence of such a profound condition upon the appearance of the therapeutical action of the belladonna would hardly fail to convince the most doubtful as to its potency in like cases, and justify the repetition of the practice.

Dr. N. G. M. Walker, of Texas, relates a case where tincture of opium was taken for suicidal purpose, in which belladonna thrown into the stomach had the happiest effect.

ART. 83.—*On the Antagonism between the Actions of Physostigma and Atropia.*

BY THOMAS FRASER, M D.

(*Transactions of the Royal Society of Edinburgh*, vol. xxvi. 1872; and *British and Foreign Medico-Chirurgical Review*, July.)

The question of the antagonism of action between two active poisonous substances is well brought out in a report to the Royal Society of Edinburgh by Dr. Thomas Fraser. He opens his work by a historical notice of the various instances of antagonism that have been suggested by different experimentalists, and he concludes this part by the hope that the description of the research forming the subject of his present communication will render it obvious that the reality of a lethal antagonism may be readily and certainly established by experiment.

The physostigma used in the researches by Dr. Fraser was administered either in the form of an alcoholic extract or of the sulphate of the active principle. The atropia was administered in the form of sulphate. With a few exceptions, when dogs were used, the animals operated on were rabbits. The animals were invariably in a state of perfect health and in full digestion.

The rabbits used were about three pounds in weight, and the plan adopted for the administration was as follows. In the first place the minimum fatal dose for rabbits of the extract of physostigma and of the sulphate of physostigma employed was determined by a number of preliminary experiments, so that on the weight of the animal being ascertained it was an easy matter to be certain of the dose that killed it. Then in those experiments in which the recovery followed the administration of a dose of atropia given in combination with a dose of physostigma equal to or in excess of the minimum fatal dose, the animal used was killed many days afterwards, and when the effects of the two substances had completely disappeared, by a dose of physostigma less than or only equal to that from which it had previously recovered. *Therefore when the administration of atropia presented an otherwise fatal dose of physostigma from causing death, a perfect demonstration was obtained of the power of atropia to produce some physiological action or actions that counteracted some otherwise lethal action or actions of physostigma.*

The administration of the substances was effected by subcutaneous injection, by which method the existence of a lethal antagonism was subjected to a more severe test than if the substances had been introduced into the stomach.

From these preliminary statements Dr. Fraser passes to describe his various and laborious experiments. It is shown that the minimum lethal dose for rabbits of extract of physostigma is 1.2 grain, and that of sulphate of physostigma is 0.12 grain for every three pounds weight of the animal.

It is shown by a direct inquiry as to the limits of antagonism when atropia is administered five minutes before physostigma, that while one two-hundredth of a grain of sulphate of atropia is a dose insufficient to prevent death, nine

one-thousandths of a grain is a dose sufficiently large to do so; that any dose of sulphate of atropia ranging within the wide limits extending from the nine one-thousandths of a grain to five grains and one-fifth is able to prevent the effect of this dose of physostigma; and that if the dose of sulphate of atropia amount to five grains and three-tenths the region of successful antagonism is left and death occurs.

From another series of experiments it is shown that while three two-hundredths of a grain of sulphate of atropia is a dose too small to prevent the occurrence of death after a dose of physostigma one and a half times as large as the minimum lethal dose, one-fiftieth of a grain is a dose sufficiently great to do so; that doses of sulphate of atropia ranging from one-fiftieth of a grain to four grains and one-tenth are able successfully to counteract this dose of physostigma; and that death occurs when the dose of sulphate of atropia is so large as four grains and three-tenths.

At the close of his paper the author contends that the conditions of the experiments and the symptoms that were observed render it certain that atropia prevents the fatal effect of a lethal dose of physostigma by so influencing the functions of certain structures as to prevent such modifications from being produced in them by physostigma as would result in death. The one substance counteracts the action of the other, and the result is a physiological antagonism so remarkable and decided that the fatal result even of three and a half times the minimum lethal dose of physostigma may be prevented by atropia. Whether the same results would occur in the human subject is left open by Dr. Fraser for experience, as distinct from experiment, to decide.

ART. 84.—*Physiological Antagonism between Atropia and Morphia.*

By J. MAGEE FINNY, M.B., Dublin.

(*Dublin Journal of Medical Science*, July.)

At a meeting of the College of Physicians of Dublin Dr. Finny related a case of a young woman, aged twenty-five, who suffered from neuralgia of the face. Dr. Finny had found that she received much benefit from the subcutaneous injection of one-quarter of a grain of morphia, and one-fiftieth of a grain of sulphate of atropine at bedtime. He therefore again went with the view of injecting the mixture, but noticing some fungoid bodies in the atropine solution, and thinking it was in consequence partially decomposed and weaker, he injected double the amount of the atropine solution. In the course of twenty minutes he was called to her and found her cold and trembling, in a state of alarm, with a dry parched tongue and throat, great thirst, though she was hardly able to swallow drinks, with thick inarticulate speech, dilated pupils, and consequent impaired vision. Pulse 130, respiration 32 and very shallow. The symptoms rapidly became more serious, noisy delirium supervening, when Dr. Finny remembered it as a physiological antidote to atropine, and he forthwith injected one-third of a grain of the acetate of morphia. In five minutes the good effects of the latter were observable, the restlessness and jactitation ceasing, the pulse coming down, and the skin becoming warmer. In a few minutes the patient was asleep, and on the following morning was free from neuralgia and capable of eating a hearty breakfast.

ART. 85.—*Excessive Atrophy of the Ribs of a Lunatic.*

By PROFESSOR LUDWIG MEYER, of Göttingen.

(*Virchow's Archiv.* lii. 3; *Schmidt's Jahrbücher*, No. 4, 1872.)

This abnormal state of things was met with in an imbecile woman, aged fifty-six years, who died in the Göttingen *Irrenanstalt*, from suppuration in the kidneys. Professor Meyer gives the following description of these bones:—

"The ribs seemed to have been much reduced both in breadth and thickness,

and in some parts the osseous structure was as thin and small as the blade of a knife. A slight attempt to bend any of the bones caused fracture. Under firm digital pressure the ribs broke like fragile pasteboard, with straight lines of fracture and without splitting. The broken bone presented no infraction, but, as soon as the pressure which had caused the fracture was removed, returned to its former position with an elastic spring, although previously it seemed to have been neither soft nor elastic, but, on the other hand, broke down with crepitation under the finger-nail. The ribs were extremely light in weight, and their surfaces were stripped and very rich in vessels; the compact substance formed a transparent shell as thin as paper, and the spongy substance consisted of a few cross-fibres, the meshes of which were filled with a thin greasy and brownish-red fluid. Transverse sections of the thin cortical substance, when cleared up by hydrochloric acid and placed under the microscope, seemed to be normal; the bone corpuscles presented their ordinary appearance and were numerous; the Haversian canals were wide and irregular, and lined by a streaky thick membrane, studded with drops of fat and granular corpuscles. The thinly fluid marrow contained blood-corpuscles and drops of fat."

The other bones in this body were all normal or almost normal. Professor Meyer is disposed to attribute this isolated morbid change of the ribs to the extremely slight respiration which is observed in many lunatics. In this case no ribs had been broken during life.

ART. 86.—*Poisonous Effects of Animalculæ.*

By J. P. BROWN, M.D., Ontario.

(*Canada Lancet*, August, 1852.)

Dr. Brown reports several severe cases of poisoning produced by drinking freshly churned buttermilk, which, on microscopical examination, exhibited large numbers of animalculæ. The conclusions which he draws are: 1. That in addition to the chemical tests used, the long interval which elapsed between the imbibition of the milk and the commencement of the symptoms would preclude the possibility of ordinary irritant poisoning. 2. The presence of animalculæ would preclude the same; as the existence of poisonous matters in the milk would, in all probability, prove fatal to insect life. 3. That the animalculæ were the real evil, and that he is of the impression that the germs or ovula which produced them were in the water drunk by the cow which produced the milk. The animalculæ were from $\frac{1}{8000}$ to $\frac{1}{7000}$ of an inch in diameter. Remembering the immeasurable difference in the size which always exists between the germ or ovum and the fully developed living being, he thinks it is quite possible for the germ of the animalcula to be so small as to pass without obstruction through the lacteal and lactiferous absorbent systems: and that, too, without breaking any well-established physiological law.

ART. 87.—*Five Cases of Poisoning occurring in Private Practice.*

By JOHN DOUGALL, M.D.

(*Glasgow Medical Journal*, February.)

These five cases are all of singular interest. In the first case, a girl two and a half years old swallowed about a tablespoonful of Adam's patent composition for cleaning furniture—a neutral saponaceous creamy substance, smelling strongly of ammonia and turpentine. After serious symptoms of depression there was recovery. In the second case, a boy of two years old took into his mouth a drachm of fuming nitric acid. He spat out at once, and recovered from the local symptoms that were set up. In the third case, a boy aged five years recovered from a drachm dose of oxalic acid; lime-water, magnesia, and warm weak toddy were administered, and recovery was complete in twenty-four hours. In the fourth case, one of poisoning by opium, tartar emetic injected

into a vein failed to produce vomiting. Death occurred. The last was an unique case, "resembling hemorrhagic variola," induced by eating decayed plums. The patient recovered after a long illness.

ART. 88.—*Report of a Case of Poisoning by Cantharides.*

By L. B. KLINE, M.D.

(*Medical and Surgical Reporter*, July 20; and *The Medical Record*, Sept. 16.)

Dr. Kline relates a case of poisoning by upwards of fifty grains of this remedy. When first seen the patient, female, had already been relieved by emesis. With the object of neutralizing whatever of the cantharides might remain in the stomach he administered charcoal, and also ordered the following: R. Tr. opii, Tr. camphor., Buchu ext. fl., Spir. æth. nit., aa fʒss. M. S. One teaspoonful to be taken for a dose.

A few powders of morphia were also used in connection. The symptoms were soon relieved, and in the course of a few hours she was comparatively recovered. A noticeable feature in the effects of the cantharides was its action upon the pulse, causing it to fall to about fifty per minute.

SECT. IV.—THERAPEUTICS.

ART. 89.—*On Conia and its Use in Subcutaneous Injection.*

By J. WILKIE BURMAN, M.D., Assistant Medical Officer, West Riding Asylum.

(*West Riding Lunatic Asylum Medical Reports*, vol. ii.)

Doctor Burman, who is known to have performed numerous experiments with this drug on man and the lower animals, comes to the following conclusions with regard to the action of conia and its uses:—

1. Conia is too powerful and too irritant to be administered internally alone; but when neutralized with acid and in bland solution there is no reason why it should not be used internally in suitable doses, and thus produce well-marked cicutism without any topical irritation.

2. Pure conia may be injected under the skin in large quantities without leading to any result except the formation of an abscess, or the production of considerable local irritation at the site of injection.

3. Conia, neutralized with acetic or hydrochloric acid and dissolved in spirit and water, acts very rapidly and powerfully, when subcutaneously injected, in pigeons, pigs, guinea-pigs, rabbits, dogs, and cats, and when thus used, in doses of from m. ss to m. ij, in the healthy human subject it produces well-marked cicutism.

4. Thus administered it may be used therapeutically, in doses of m. ss to m. ij, in cases of *mania*, with the result of subduing motor excitement, warding off emaciation and exhaustion, and promoting recovery. The strongest conia may be thus administered, commencing with doses of m. ʒi and gradually increasing, in proportion to the motor activity of the patient, until decided physiological effects are produced.

5. When thus administered the use of conia does not lead to any disturbance of the digestive functions, interference with the circulation, or any considerable local irritation.

6. The most suitable cases for treatment by the hypodermic injection of conia, neutralized and in solution, are those of *acute mania*, where the brain lesion is not *organic* and where medicine, if given by the mouth, would require to be administered with the stomach-pump.

7. Conia acting upon the purely motor centres in a sedative manner, and morphia acting in a similar way on the sensori-motor and ideo-motor centres,

it follows as a fair corollary that the combination of the two in subcutaneous injection should lead to effects directly antagonistic to the condition of maniacal excitement; and such being, in fact the case, they may be thus used together with very great success in the treatment of cases of mania.

8. Conia might be very useful, as a subcutaneous injection, in cases of poisoning by strychnia, as well as in tetanus, hydrophobia, and other spasmodic diseases.

9. Specimens of conia, as obtained from *different* sources, vary very considerably in appearance and strength, and they may be rendered dangerous or unfit for use in the human subject on account of impurity. Too much caution cannot, therefore, be observed in the first use of a new specimen until its strength is ascertained.

10. Conia as obtained from chemists in England and Scotland is manufactured, for the most part, abroad. The best and purest conia is prepared from the *seeds* of the *uncultivated* plant, and in order to avoid variability, all supplies of it should be drawn from some *one* good manufacturer, with directions that it should be so prepared.

11. An increase in the demand for conia is all the stimulus that is required to lead to the production of a crystallizable salt of it of stable and uniform strength, and sufficiently soluble in water for the purposes of subcutaneous injection.

12. m. ss of the best conia (costing $\frac{1}{4}$ d.) subcutaneously injected, neutralized and in solution, is equivalent in action to about f $\overline{3}$ j of the best succus conii (costing 2d.) administered by the mouth.

ART. 90.—*On the Injection of Ergotin in the Treatment of Aneurism and Varix.*

By Dr. DUTOIT.

(*Schmidt's Jahrbücher*, No. 6, 1872.)

Dr. Dutoit reports a case of aneurism of the subclavian artery cured by subcutaneous injections of ergotin and digital compressions (*Archiv*, f. 1, Clin. Chir. xiii. 3, 1871). Here the digital compression was rendered possible by the use of subcutaneous injections of ergotin, as recommended by Professor von Langenbeck.

"The patient, a man aged forty years, in attempting to save his face in a fall, injured his left arm, which was forcibly extended; about five months afterwards a tumor formed under the left clavicle, which pulsated and caused severe brachial neuralgia. When Dr. Dutoit first saw the patient he found on the outer side of the left sterno-clavicular joint, and projecting above and below the left collar-bone, a violently pulsating tumor of the size of an ostrich's egg. The collar-bone was arched forwards to a considerable extent. The supra-clavicular hollow and likewise the left side of the neck and face were œdematous. On auscultation both cardiac sounds could be distinctly heard over the tumor, and the second sound was accompanied by a bruit."

That this was an aneurism seemed to be indisputable. From the report as to the cause of the lesion, the long duration and the simultaneous protrusion above and below the collar-bone, Dr. Dutoit concluded that the case was one of spurious circumscribed aneurism. Deligation after Hunter's method was impossible, and after Brasdor's method extremely unsafe; and digital compression was not applicable, as the first rib was covered by the tumor. Dr. Dutoit first treated the patient by injecting Langenbeck's solution of ergotin, gradually increasing the daily dose from 3 to 18 centigrammes. The injection was first made every second day, and afterwards every third day. After the fourth injection Dr. Dutoit made out a decrease in the size of the tumor; and from this time there was diminution of the tumor and reduction of the pulsation after every injection. No abscess formed at the seat of the injection, but indurated tubercles, which Dr. Dutoit regarded as advantageous, since these

set up considerable resistance to the impulse of blood. During this treatment some of the varicose veins of the neck became atrophied.

"When the dose of ergotin had reached 12 centigrammes the patient experienced pricking sensations in the limbs, which lasted from a half to one hour. After a fruitless attempt with Luer's compressing apparatus, Dr. Dutoit was able, on the forty-second day from the commencement of the treatment, to apply digital compression. After the tumor had been compressed six hours daily for six and a half days the pulsations over the whole circumference of the tumor had ceased, and a strong impulse could be felt only on applying the finger in a direction from below upwards. Ten injections were afterwards made, each containing 18 centigrammes of ergotin, and a firm pad of caoutchouc was then fixed over the artery at the part where the compression had been made. This pad was used during two months, the patient wearing it for eight successive days and then leaving it off on the following eight days. When Dr. Dutoit saw the patient nine months after the commencement of the treatment there was no difference in appearance between the left and the right supra-clavicular fossa; the infra-clavicular fossa on the left side was swollen and filled with thick firm tissue, which presented no signs of pulsation. There were no longer any subjective symptoms."

Dr. Paul Voigt, of Griefswalde (Berl. klin. Wochenschr. ix., 10, 1872) recommends the treatment of varices by subcutaneous injections of ergotin. On a man aged sixty years, affected with extensive varices of the right leg, subcutaneous injections were made of a solution of 2 grammes of extract of ergot in 7.5 grammes of spirits of wine and the same quantity of glycerine. Twelve centigrammes of the extract were injected every second day at two spots. At the end of eight days the varix was no longer to be seen, and there was no return of it at the end of six weeks, during which time the patient had been walking about. A second case of varix on the calf of the size of a hazel-nut disappeared after a single injection.

By the results of Dr. Voigt's treatment in these cases Professor Landois and Dr. Potel were led to make microscopical sphygmographical investigations into the action of ergotin on the muscular structures of arteries and other vessels. Ergotin first causes contraction of the arterial muscular tissues, consequently less blood is carried to the veins and the rapidity of the current is increased. The contraction of the muscular tissue of the veins is thus excited, although in old varices this contraction may be very slight. Probably direct compression of the veins may be set up by the infiltration. Swelling was produced as a result of the injection.

The many trials made on varices of the leg and on varicocele, hæmorrhoids, and angiomas have had a good result.

By experiments on rabbits it has been shown that ergotin, when injected subcutaneously, causes contraction of the muscular tissue of vessels through the action of the vaso-motor centres. Ergotin acts more energetically at the region of injection than at other parts of the body, an analogous instance to that of the local action of morphia when injected subcutaneously.

ART. 91.—*Hypodermic Injections.*

By M. ADRIAN.

(*Bulletin Thérapeutique and Pharmaceutical Journal*, July 6.)

In the preparation of a solution for hypodermic injection the choice between the normal alkaloid and its salts is not an indifferent one. When medicaments so powerfully active are injected under the skin, it appears necessary to define clearly the relation that exists between the alkaloid itself and its combinations with acids. In medical practice sufficient importance is not always attached to this distinction; and instances are sometimes met with where the same doses of hydrochlorate, sulphate and acetate of morphia, or of hydrochlorate and sulphate of strychnia, are prescribed, although the constitution of these various

salts assign to them a sensibly different proportion of the active principle that is employed. This will be seen by an examination of the following numbers:—

One gramme of	Crystallized Alkaloid.	Water necessary for Solution.
Hydrochlorate of morphia contains	0.80	20
Sulphate of morphia	0.76	10
Acetate of morphia	0.86	5
Sulphate of strychnia	0.75	10
Hydrochlorate of strychnia . .	0.83	8

According to this table, one gramme of acetate of morphia contains ten centigrammes more of morphia than the same weight of the sulphate, and a similar difference exists between the hydrochlorate and sulphate of strychnia.

Of course it is because of their greater solubility in water that the preference is given to the saline combinations over the alkaloids. But the preparation of these solutions is not so easy as at first sight might appear, and certain difficulties are met with in the operation which might possibly lead to a notable error in the final result, and so modify consequently the composition of the medicament. Thus in operating with the salts of morphia, it is found that their solubility is variable, and it is necessary sometimes to have recourse to elevation of temperature, or the addition of a fresh quantity of acid, to obtain a solution. This difference may arise from an impurity in the salt, or more frequently from the greater or less amount of dehydration it has undergone in its preparation. On the other hand, it is rarely that the solution is sufficiently clear, and it becomes necessary to filter it through paper. But what then happens? The filter absorbs a portion of the liquid; and although the precaution may be taken of well washing the filter, there is no proof that the whole of the active principle is carried off in the washing, so that in pouring 10 grammes of distilled water containing 30 centigrammes of hydrochlorate of morphia upon a filter weighing 50 centigrammes, only 8.20 grammes of the solution is recovered, being a loss of 1.80 gramme, or nearly one-fifth.¹

Solutions intended for hypodermic injection, prepared as they usually are, present another defect—namely, the alteration which they undergo after a time. Small fungi are seen to form upon the surface; then the liquid becomes turbid and gives rise to a copious deposit. The experiments which the author has made with the object of avoiding this alteration, have led to the following results.

The solutions of atropia and codeia are decomposed more readily than the others. Also, when they are prepared in the cold they change more rapidly than when they are obtained with boiling distilled water. Liquids containing the alkaloids dissolved with the help of sulphuric acid are preserved better than those in which hydrochloric acid is used. Finally, solutions containing glycerine to the extent of one-fifth of the total volume may be kept for a long time without undergoing the least alteration.

Based upon these observations, the author has been led to consider the following conditions to be desirable in the preparation of solutions for hypodermic injections:—

1. To use exclusively alkaloids of vegetable origin, in a state of purity. These are always well defined, stable and uniform in composition, whilst their salts vary according to the equivalent of the acid which is used in their formation, and according also as they contain more or less water of crystallization.
2. To use as a vehicle boiled distilled water, containing twenty per cent. of glycerine.
3. To give the preference to sulphuric acid, diluted in the proportion of one of acid to ten of water, above all other acids.
4. To substitute measurement by volume for measurement by weight.

¹ In a memoir upon which the author is engaged, he proposes to indicate the change of composition to such a liquid through the absorption in the filter.

ART. 92.—*Case of Excessive Hypodermic Use of Morphia.*

By JUDSON B. ANDREWS, M.D., Assistant Physician to the New York State Lunatic Asylum, Utica.

(*Am. Journ. Insanity*, July, 1872.)

Dr. Andrews mentions the case of a woman, aged thirty years, who had passed into an acutely maniacal condition, and exhibited scars and ecchymosed spots, covering nearly the whole of the body, which could be reached by her own hand. When convalescent she asserted that she had employed the hypodermic injections for three and one half years, once, and much of the time twice a day, making in all about two thousand injections; that during the last few months of its continuance she had used a drachm and one-half of morphia per week; that she inserted the needle perpendicularly to the surface, and often carried its full length into the tissues. About four months before death the patient, in rubbing her hand over the breast, discovered an elevated point just under the skin, which on pressure gave a pricking sensation. This was cut down upon and a broken needle extracted. From this time from one to twelve needles were removed daily from various parts of the body; from the left breast, the abdominal parietes, the mons Veneris, the labia and vagina, the thighs, from the leg down to the ankle, from the buttocks, from about the anus, from the back as high up as between the shoulders. Two hundred and eighty-six needles were taken from the body during life; 11 were found in the tissues after death; 3 were passed from the rectum during sickness; making a total of 300 needles and pieces. Of this number 246 were whole, and 54 were parts of needles. As regards position in the body, they were distributed about as follows: In right breast, 150; left breast, 20; abdomen, 60; genitals, 20; thighs and legs, 30; back, 20.

It was supposed that they were introduced through the skin while she was under the influence of morphia hypodermically administered, and while suffering from hysteria. That some were found in positions where they could not have been inserted by the patient can be accounted for by their movements in the tissues, which were observed so often during the life of the patient. Her mother could throw no light on the subject, but recalled the circumstance that the patient purchased at one time ten papers of needles, and could account for only two of them. They were not obtained or introduced while in the asylum.

ART. 93.—*Researches on the Action of the Bases and Alkaloids derived from Opium.*¹

By M. BOUCHUT.

(*Gazette Médicale de Paris*, No. 21, 1872.)

Conclusions.—From the whole of the facts observed in infants between the ages of three and thirteen years, and in some few subjects more advanced in age, it results:—

1. That the alkaloids derived from opium, when administered by the stomach or by the cellular tissue, may be divided into two groups, one comprising the alkaloids endowed with soporific properties, the other the alkaloids that are inert.

2. That the alkaloids of the first group differ in the energy of their action.

3. That none of these produce any convulsions, even in the strongest doses in which it is possible to administer them.

4. The best soporifics are those alkaloids which are poisonous when employed in doses that are too considerable.

¹ Communicated to the Académie des Sciences, Paris.

5. That morphia and the salts of morphia are the most active preparations of opium.

6. That in its soporific and anæsthetic properties codeia comes next to morphia.

7. That it is necessary to use three times more cordea than morphia in order to obtain similar soporific and anæsthetic effects.

8. That narcea comes after morphia and codeia with regard to its soporific properties; and that this alkaloid, if it be pure, may be absorbed in considerable doses without producing any appreciable effect.

9. That papaverin, when injected into the cellular tissue in doses of 10 centigrammes and into the stomach in doses of 1 gramme, has no action.

10. That narcotine in doses of 50 centigrammes has no narcotic nor anæsthetic effect.

11. That thebain in doses of 50 centigrammes is absolutely inert.

12. That meconine in doses of 30 and 50 centigrammes produces no appreciable effect.

13. That opianic acid is an inert substance.

14. That in practical medicine opium, in the first place, and then morphia and cordea alone are of use to patients.

15. Finally, that the difference in the results obtained by observers on the properties of the alkaloids and the bases of opium, depends on the condition of the purity or impurity of the substances submitted to experiment.

ART. 94—*On the Employment of Veratrin in Cardio-Vascular Affections that have not attained the Period of Cachexia.*

By M. BITOT.

(*Gazette Hebdomadaire*, No. 37, 1872.)

The following conclusions are given at the end of a communication read at a meeting of the French Association for the advancement of Science, September 9th, 1872:—

1. Veratrin is a valuable agent in the treatment of cardio-vascular disturbances.

2. It is especially useful in the treatment of disturbances that accompany functional hypertrophy of the heart.

3. In contrast to digitalis it in physiological doses acts on the heart as an atonic and hyposthenic agent.

4. In physiological doses it is not, like digitalis, an exhausting agent. The persistence of its employment is not attended with the same dangers.

5. It seems to play the part of an indirectly compensating agent. By intensifying the sensibility and the contractility of animal life it reduces the morbid activity of the nervous system and of the contractile fibres of the vegetative life.

6. Its action is very distinct from that of digitalis; when, therefore, the latter agent becomes powerless one might have recourse to veratrin.

7. As with digitalis veratrin is contra-indicated in the ultimate stage of cardio-vascular affections in asystole.

ART. 95.—*Veratrum.*

By E. PEUGNET, M.D.

(*New York Medical Journal*, May.)

At a meeting of the Medical Society of the County of New York Dr. E. Peugnet read portions of a long and elaborate paper, entitled "A Contribution to the Knowledge of the Chemistry and of the Physiological, Therapeutical, and Toxical Actions of Veratrum Album, Veratrum Viride and their Alkaloids." Besides reviewing the work of previous investigators, the speaker

detailed upwards of fifty experiments of his own, and ended with the following summary of conclusions drawn from them:—

"1. They confirm the views of Richardson and Scattergood as to the identity of the veratroida in both [veratrum album and veratrum viride].

"2. They confirm the views of Bullock as to the veratroida's being distinct from the veratria (sabadilla).

"3. They confirm the existence of Simon's jervina in veratrum album, and of Bullock's viridia in veratrum viride, and further tend to establish the chemical and physiological identity of both.

"4. They establish that Simon was probably mistaken as to the existence of baratyna in veratrum album; for in exhausting the root a large amount of lime is extracted by the acetic or phosphoric acids, and held in solution in the form of acetate or phosphate, and the addition of sulphuric acid will precipitate it in the form of sulphate, which is insoluble: in case the sulphates are used to precipitate the lime, the acetates or phosphates of ammonia, magnesia, potassa, or soda are formed and held in solution.

"5. The veratroida is the active sedative principle of veratrum viride, and Bullock and Wood were mistaken in asserting that it was the viridia.

"6. The combination of the two alkaloids, as they exist in their natural state or artificially combined, is the most reliable and decided method of obtaining the therapeutical virtue of either veratrum album or viride, as shown by the experiments of Scattergood, Percy, and Oulmont, with the resinoid of veratrum viride, also Bullock's and Wood's with the combined alkaloids, and confirmed by my own.

"7. The essential and characteristic difference between the varieties of veratrum resides in the resinoid of veratrum album, and the characteristic action of that plant on the alimentary canal is due to it.

"8. In order to obtain the most active root, great care should be taken in selecting it; the time of gathering it is essential in both, for in extracting the alkaloids from two pounds of powdered veratrum album, purchased from a German importer, I obtained but two grains of veratroida, not a trace of jervina, an abundance of earthy salts, and a resin almost inert. I did not find two specimens out of five to yield the same result; this accounts for the discrepancy between the views of such high authorities as Pereira, Christison, and others, and mine as to the constant effect of veratrum album; for I maintain that if it has been collected at the proper season and has not deteriorated by keeping, and it is either given in substance or its active principles are administered, it will invariably cause vomiting, purging, great prostration, and gastro-intestinal hyperæmia; in many cases gastro-enteritis will ensue as a secondary result. These effects, of course, vary with the amount taken.

"In case the tincture of veratrum viride or its fluid extract is preferred the rootlets should be separated, as they probably contain less of the alkaloids. As the tincture or fluid extract of veratrum album would contain the veratrine or resinoid, the obnoxious principle, it would be necessary to extract the alkaloids and make use of them.

"9. In cases where alarming symptoms manifest themselves, the basis of the treatment should consist of stimulants, rubefacients, and opiates. In poisoning by veratrum album, the gastro-intestinal hyperæmia should be early overcome by the tincture of cantharides, as suggested by Percy in reference to the dilatation of the capillaries, by general and local electrization, and by the early use of warm enemata to wash away the effused blood and mucus.

"10. The presence of the alkaloids can be detected in the urine.

"11. The ethereal extract of the resin of veratrum album has a remarkable anæsthetic power."

ART. 96—*A Hemorrhoidal Suppository.*

By HENRY M. F. NEWTON, M.D.

(*Journal of the Gynæcological Society.*)

Dr. Newton recommends this formula for a suppository in hæmorrhoidal cases:
R Acid. tannic., gr. v; ext. belladon., gr. ssj; butyr. cacao. q. s.

ART. 97.—*The Glue Bandage in Fracture.*

By E. D. WORTHINGTON, M.D., of Sherbrooke, Canada.

(Canada Medical Journal.)

The author, in referring to the article on "The Glue Bandage as a Primary Setting for Fractured Limbs," published in the December number of that journal, by Geo. Ross, M.D., House Surgeon to the Montreal General Hospital, states that he has used the glue bandage frequently and successfully since 1867, in fractures and in other surgical cases. In a case of fracture of the leg, with a certain amount of swelling, and where it is necessary to put it up for a few days in the usual manner, with a roller or in a box-splint, or on an inclined plane, the course he has always adopted in applying the glue bandage is as follows: Dissolve a certain quantity of No. 1 white English glue to the consistence of drained honey. Get a small-sized paint brush, half or three-quarter inch diameter, and a smooth board, two or three feet in length, on which to give the paper—already cut to the requisite lengths—a coating of glue. Now split the roller that is already on the leg down the middle, open the ends out, give the leg a good coating of glue, brushing under both sides as far as possible, and readjust the cut ends of the roller as you would an ordinary tailed bandage. With a little pains the whole leg may be glued, except at the heel and calf, and even at the latter point only a very narrow line need be left untouched. Then apply in succession layers of paper previously glued, and as each layer is completed give the whole a liberal covering of glue. In five or six hours this will have become perfectly solid. All this time the leg remains in the original splint unmoved. The box-splint, of course, has or ought to have movable slides. At the next visit lift the leg out of the box-splint and apply a few thicknesses of glued paper, to cover the unglued line on the posterior aspect of the leg. In this way no assistant is needed, and the whole thing is done without the slightest possibility of disturbance to the fracture.

When necessary to split the bandage, an ivory paper cutter will be found very useful, cutting down on it with a sharp knife.

ART. 98.—*Note relative to the Monobromide of Camphor.*

By WILLIAM A. HAMMOND, M.D.

(New York Medical Journal, May.)

The monobromide of camphor consists of one equivalent of camphor united with one of bromine ($C_{10}H_{16}O.Br$). It is a white crystalline solid, having the odor of camphor, and to a slight extent that of bromine. It decomposes readily when exposed to the atmosphere, to a heat of 100° Fahr., or to the action of ammonia.

Dr. Hammond's experience with this preparation is eminently satisfactory. He has employed it in two cases of infantile convulsions due to the irritation of teething, with the effect in each instance of preventing the further occurrence of paroxysms which previously to its administration had been very frequent. In each case a grain was given every hour, rubbed up with a little mucilage of acacia. Three doses were sufficient in one, and two in the other case. The children were aged respectively fifteen and eighteen months.

In a very obstinate case of hysteria occurring in a young married lady, in the form of paroxysms of weeping and laughing, alternating with epileptiform and choreiform convulsions, Dr. Hammond gave the monobromide of camphor in doses of four grains every hour. The influence was distinctly perceived after two doses were taken, but ten were necessary to entirely break up the attack. This was a very favorable result, as all previous seizures had lasted from five to eleven days, uninfluenced by medication or moral suasion.

The author has also employed it with excellent effect in several cases of

headache occurring in women and young girls, and due to mental excitement and excessive study. One dose of four grains was generally sufficient to cut short the attack. In two cases, three doses at intervals of half an hour were necessary.

In wakefulness, the result as it so generally is of cerebral hyperæmia, the monobromide of camphor appears to be greatly inferior to the bromide of calcium, or even the other bromides. But it is apparently indicated in delirium tremens. Dr. Hammond has not yet had the opportunity of trying it in this disease, but he would not hesitate in a case of the affection to administer it in doses of five grains every hour or half hour, with the confident expectation that sedation and sleep would result.

The monobromide of camphor may be given in the form of pill, with conserve of roses as the excipient, or as a mixture with mucilage of gum-arabic and syrup. The dose for adults ranges from two to five grains.

ART. 99.—*Cholera Prescription.*

By HENRY HARTSHORNE, M.D., Philadelphia.

(*New Remedies*, April, 1872.)

R. Chloroform, tinct. opium, spts. camphor, spts. ammonia aromatic, ãã fʒiiss.; creasote, gtt. iij.; oil of cinnamon, gtt. viij.; brandy, fʒij. Mix. Dilute a teaspoonful with a wineglass of water, and give two teaspoonfuls every five minutes, followed by a lump of ice.

ART. 100.—*On Embalming.*

By H. G. HOWSE, M.S.

(*Guy's Hospital Reports*, vol. xvii. 1872.)

From Mr. Howse's description of his mode of preserving anatomical subjects we extract the following:—

"I consider glycerine to be the preservative fluid. It does not, however, prevent maggots from breeding in the muscles, nor does it prevent fungus from forming on the dissections when left exposed to the air. To prevent the former I used to employ, in all the earlier experiments, a watery solution of arsenite of potash, freely injected, before the glycerine. I soon found a practical inconvenience from this, in that it made the subject slightly œdematous, thus requiring more glycerine afterwards to saturate it, and making the injections more expensive. For this reason I tried to prepare a glycerine solution of arsenic. Arsenious acid does not dissolve in this medium in the cold or only to a very slight extent. When the glycerine is heated to destructive decomposition—i. e., to ebullition, other chemical compounds get formed, and then the arsenic dissolves freely. . . . It is not wise, however, to make it take up much more than a pound to the quart. . . . It should be filtered before using. . . . The injection is always made from the femoral artery, opened at the apex of Scarpa's triangle. Two injection pipes, provided with stop-cocks and with long nozzles, are inserted, one passing up and the other down the artery, and a piece of strong ligature-silk tied tightly around it, to prevent the glycerine escaping. . . . The siphon arrangement is always made use of in injecting—i. e., a long piece of India-rubber tubing is tied over the injecting pipe, and communicates with a reservoir placed considerably above the level of the body. To make the siphon arrangement act, this must of course be filled with fluid before inserting the end into the reservoir, and as the viscid glycerine takes a long time in doing this, I usually fill it first with a watery solution of the usual preservative (arsenite of potash), keeping the stop-cock on the injecting tube closed, then inserting the mouth of the tube into the glycerine, and opening the stop-cock. The glycerine injection will now slowly flow. If the arsenical glycerine fluid be made as above recommended, it will be sufficient to inject a quart and

a half of it first, corresponding with about one pound and a half of arsenious acid (the injection being completed with pure glycerine). This will be sufficient to prevent maggots breeding in the subject even in summer time. . . . As regards the quantity of glycerine to be used, it will vary with the size of the subject—*i. e.*, with the *bulk* of it. . . . The average quantity that we have expended upon our subjects is about three gallons each. Great care must be taken in keeping the cistern and the pipe full of fluid. . . . If, unfortunately, during the progress of the injection, the pipe should become empty, it is best filled up again with arsenical watery fluid. . . . I have said that it is necessary to *saturate* the subject. This is best done in the following way: After about two gallons have been injected it becomes œdematous; it should then be allowed to stand for two or three days, during which blebs form on the surface; these being pricked, a large quantity of fluid drains away. The other gallon of glycerine being then injected, acts much more effectually in the preservation of the subject than if it were all injected together. . . .

"Although the arsenical glycerine quite prevents maggots breeding in the subject, it does not prevent the formation of mildew in very hot weather. . . . For preservation, then, during the hot months, I believe it is best to keep the subject wrapped in cloths soaked in carbolized glycerine, and standing in a tray covered about half an inch deep with similar fluid, so that the cloths may remain constantly moist by capillary attraction. After the glycerine injection is completed, the arteries may be filled with the usual paint or colored paraffin injection."

ART. 101.—*Carbolic Acid as an Anæsthetic.*

By ANDREW H. SMITH, M.D.

(*New York Medical Journal*, June.)

Dr. Andrew H. Smith reported to the Medical Society of the County of New York, April 22, 1872, some experiments made upon himself which fully confirm the statement of Dr. J. H. Bill as to the local anæsthetic power of carbolic acid.

"In my first experiment," says Dr. Smith, "I painted a spot on the forearm, about an inch in diameter, with carbolic acid of about the strength of 85 per cent. For about a minute there was a slight burning sensation, after which the integument became entirely insensible, the cuticle being whitened and shrivelled, and the spot slightly elevated. I then with a scalpel made an incision about half an inch in length through the whole thickness of the integument. This was done without even feeling the contact of the knife. The capillary circulation seemed not to be materially interfered with, as the blood flowed as freely as it would from a similar wound under ordinary circumstances. The reparative process was also not impaired, adhesion taking place immediately. Three hours after the application of the acid a needle could be thrust freely into the skin without causing pain.

"In the second experiment carbolic acid was applied as before, and ten minutes after a fly-blistar was placed upon the spot. The blister remained eight and a half hours without causing any pain, and without producing vesication.

"In two instances I have applied the acid previous to incising a whitlow. The operation was almost painless, but, as the whitlow was in each case of the superficial variety, the test was not entirely conclusive.

"Inhaled in the form of spray, I have found the acid very useful in allaying irritation of the bronchial mucous membrane; coughs which have resisted all ordinary treatment have been immediately relieved, and in the course of two or three days entirely removed.

"I would suggest the use of a strong solution of carbolic acid as a revulsive, in cases in which a continuous impression is desired. While causing but little suffering, it produces an intense hyperæmia of the skin, which persists for eight or ten days, and is followed by desquamation of the cuticle."

ART. 102.—On Carbolic Acid, its Composition, Properties, Uses in Surgery and as an Internal Remedy.

By J. H. BILL, M.D., Surgeon United States Army.

(*American Journal of the Medical Sciences*, July.)

From the facts laid before the reader in this article Dr. Bill thinks that—

1. It is not proven that carbol is a general disinfectant.
2. It is of the greatest use to disinfect wounds.
3. It accomplishes this (a) by destroying pus, etc.; (b) by preventing inflammation.
4. Its use in wounds moderates pain.
5. Its use on the skin relieves itching, and produces an anæsthesia sufficient for minor cutting operations.
6. It seems to be of use internally, in certain cases, in scaly skin diseases, and at least as a moderator of pain in cancer.
7. It has not proved of decided use in other diseases.

ART. 103.—On the Employment of Carbazotate of Ammonia in Cases of Intermittent Fever.

By Dr. DUJARDIN-BEAUMETZ.

(*Gazette Médicale de Paris*, No. 39, 1872.)

1. Carbazotate of ammonia (picrate of ammonia) acts very efficaciously in the treatment of intermittent fevers.
2. Suppression of the attacks may be obtained by the employment of carbazotate of ammonia in daily doses of from 2 to 4 centigrammes.
3. In these quantities the carbazotate has never any injurious effects, and is better tolerated than sulphate of quinine.
4. The preparation of carbazotate of ammonia is not a dangerous one.
5. The physiological action of carbazotate of ammonia presents very great analogies to that produced by sulphate of quinine.
6. The use of this medicinal agent ought to become general, and in the majority of cases to replace sulphate of quinine.

ART. 104.—On *Eucalyptus Globulus*.¹

By M. GIMBERT.

(*Gazette Hebdomadaire*, No. 40, 1872.)

Eucalyptus and, to a greater extent, *eucalyptol* possess antiputrid properties, as has been demonstrated in a series of experiments made by the author. Observations made by M. Gubler tend to establish the anthelmintic value of these substances.

The following are the physiological properties of *eucalyptus*: When applied to a mucous membrane it acts as an irritant and as a congestive agent; when injected subcutaneously it gives rise to a state of slight excitement followed by a period of calm, with weakening of the circulation and respiration and lowering of temperature. With poisonous doses the subject either dies or returns to a normal condition after temporary hyposthenia. In fatal cases the autopsy reveals an anæmic condition of the tissues. The author attributes the death to paralysis of the gray substance of the cord; this view being based upon a number of experiments, according to which the action of *eucalyptus* would be

¹ Read before the Medical Congress of France, held at Lyons.

analogous to that of bromide of potassium and essence of turpentine, and opposed to that of curare.

Experiments made on man have given, to some extent, results analogous to those obtained on animals—excitement with cephalagia and an agreeable kind of drunkenness, followed by hyposthenia. Elimination takes place principally from the lungs and bladder. Under its influence the proportion of urea is increased.

In therapeutics eucalyptol may be employed both externally and internally. As an external application it has been principally employed in the form *alcoo-lature*, in dressings of wounds and for the relief of neuralgic pains. Eucalyptus as a medicine, in its principal pharmaceutical forms (powdered leaves, tincture, essence of eucalyptol in capsules, extract, syrup), may be utilized with success in neuralgia, either of paludial origin and periodic or of a reflex nature; in intermittent fevers; and, finally, in affections of respiratory passages of a chronic catarrhal nature and without cardio-pulmonary lesions. The employment of this medicinal agent is contra-indicated by any inflammatory or acute condition, and no benefit will be derived from it either in neuralgia of inflammatory origin or in acute affections of the throat. It is especially in affections of the respiratory passages (laryngitis bronchitis), at the time of their passage from the acute to the chronic condition and when they are chronic, that eucalyptus may be administered with a hope of good results. It is almost unnecessary to add that in tuberculosis this agent can combat only the bronchial catarrhal elements.

ART. 105.—*New Use of Barnes's Dilators.*

By H. M. MORGAN, M.R.C.S.

(*British Medical Journal*, May 18.)

Mr. Morgan records two cases in which he resorted to Barnes's Dilators with advantage.

The first was a case in which the waters broke early, and the os small and unyielding. Mr. Morgan thought that by making an artificial bag of waters he would materially assist labor, so with some difficulty he managed to introduce Barnes's largest bag within the os by the help of an uterine sound. When once it was there it was easy to pump in nearly a pint of warm water; and the labor then progressed very well, each pain dilating the os by means of the artificial bag quite in a natural way. He thinks that by this means he gained some hours.

The second case was one of miscarriage at the eighth month with profuse hemorrhage, placenta prævia, and unyielding os. Mr. Morgan ruptured the membranes with a stiletto; and then, by means of a long pair of ovum-forceps, he passed Barnes's largest bag (rolled up small) quite into the womb; and afterwards pumped into the bag nearly a pint of warm water. As she had no pain worth mentioning, he had given her forty minims of liquid extract of ergot before puncturing the membranes. As soon as he had filled the bag with water, he commenced dilating the os himself by drawing at the tube of the bag till his finger and thumb could reach the root of the tube in the vagina. The result was, that in little more than five minutes he pulled a soft bag, as large as an ordinary new-born child's head, through the os; and then the vagina and perineum were gradually dilated in the same way until the bag came quite away. He found the head presenting, and pains were coming on moderately; but, as there was no time to be lost, he preferred not to wait for nature to act; so, with one hand internally and the other externally, he turned the child and brought a foot down, and soon completed the labor with the aid of the patient's own pains and efforts. The placenta was expelled naturally, and the womb contracted well after it. Dilatation, he says, could not possibly have been accomplished so quickly, so easily, so painlessly, and so safely by the hand. Moreover, this bag, by being pressed against the bleeding placental vessels in its

passage through the os, compressed them and checked the hemorrhage, in the same way as the head does in those cases where the pains are strong enough to keep it well pressed against the os.

ART. 106.—*On Virgin and Humanized Lymph.*

By BENJAMIN LEE, M.D.

(*New York Medical Journal*, May.)

From a series of careful experiments and observations, Dr. Benjamin Lee arrives at the following conclusions:—

1. That virgin vaccine lymph direct from the heifer is not easily absorbed into the human system, and that therefore it is not advisable to attempt its general use in the face of an epidemic or the presence of direct contagion.

2. That it is less readily absorbed in the case of infants than of older children and adults.

3. That, when absorbed, it produces the vaccine disease in both its local and constitutional manifestations in its most normal and perfect type, without unusual severity or complication.

4. That virus produced by the inoculation of a single human being with virgin lymph, for the first time, is absorbed into the human system with excessive readiness, constituting the most active virus that can be procured.

5. That such virus is more likely to induce true vaccine in persons already vaccinated than ordinary humanized virus of long descent, and that it is therefore reasonable to suppose that its prophylactic power is in all cases greater.

6. That what is true of lymph of the first remove is also immeasurably true of that of several subsequent removes, but to what extent these experiments do not determine.

7. That, accepting the foregoing conclusions, it is a matter of primary importance that every large centre of population should be provided with the means for frequent revivifying its supply of virus by a return to the original source.

ART. 107.—*Emmenagogues.*

By H. PARVIN, M.D.

(*American Practitioner*.)

Dr. Parvin, in answer to a Nebraska correspondent, gives the subjoined formulas for emmenagogue pills: In anæmic amenorrhœa, one composed of equal parts of dried sulphate of iron, white turpentine, and aloes. The pill may weigh two or three grains, and may be given twice or thrice daily.

Another may be made of equal quantities of rue, savine, and ergotine, and half as much either of aloes or of gamboge. The pill may weigh from three to four grains, and two or three may be given three times a day.

ART. 108.—*Hydrate of Chloral.*

By LAWRENCE TURNBULL, M.D.

(*Medical and Surgical Reporter*, August 24 and October 31.)

The following are some of the conclusions of Dr. Lawrence Turnbull, as drawn from his experiments, observations, etc., on this subject: 1st. There are three degrees of the operation of chloral on animals and man. The first is feebly soporific, with slightly nervous sedative action. The second is an intense soporific action, with diminutions of sensibility. At this period there is a deep sleep of variable duration, without apparent trouble of the principal functions of life. The third degree, complete anæsthesia, with total loss of general sensibility and muscular power—cataleptic state. Death almost al-

ways follows this degree of action, as was seen in his experiments on animals. 2d. Under the microscope the blood was seen moving, with some bright-red or dark-red particles. 3d. Death takes place last at the heart, which is kept in action long after all signs of death in the animal were present, as shown by removing the sternum, etc. 4th. Sleep, with diminished heat of the surface one or two degrees below the natural standard. 5th. In typhoid and typhus fever one must commence and continue in small doses; five grains is the average quantity required. 6th. It increases the flow of the menstrual fluid. 7th. Seventy grains of the hydrate of chloral is equal to $\frac{1}{4}$ grain of morphine employed hypodermically, and is not apt to cause so much disturbance of the stomach. 8th. Males require a larger dose than females. 9th. In affections of the eye it requires care to use it, as it is apt to cause swelling, redness, and excessive flow of watery secretions, with obscuration of vision. 10th. In sun-stroke or heat-toxæmia it is a valuable aid to produce sleep in that restless state after reaction produced by frictions of ice and ice-water to the head and body. 11th. In cases of impending death the means are to support the system by heat, food, and artificial respiration, with stimulation and small doses of strychnia.

ART. 109.—*The Administration of Anæsthetics.*

By DAVID WEBSTER, M.D., House Surgeon to the Manhattan Eye and Ear Hospital, New York.

(*New York Medical Journal*, August, 1872.)

Dr. Webster having been requested to note down, in each case, the length of time from the first inhalation of ether to the commencement of the operation, and the recurrence or absence of vomiting, places the results of his observations in one hundred cases before the profession: Average length of time occupied in producing anæsthesia, 5.84 minutes. The shortest time recorded is one and a half minute, in the case of a child; the longest is twenty minutes. Vomiting occurred in 42 per cent. of the cases. His impression is that the average quantity used was from four to six ounces. In most cases the patient had eaten no dinner, the inhalations occurring during the afternoon. In giving ether in this hospital a newspaper cone, lined with a towel, is always used. Three persons are generally necessary in giving ether to an adult—one to manage the cone and the patient's head, and an assistant on each side to hold him in case he struggles violently. This they can best accomplish by placing one hand on his shoulder, while with the other they seize the wrist. The vast majority of hospital patients resist more or less violently during the stage of excitement, while the reverse seems to be true of the more intelligent and better-trained cases met with in practice.

He remarks, in giving ether, that the newspaper cone should be held a little way from the patient's nose while he takes the first two or three inspirations, so that the ether may be at first largely diluted with air. The struggling once commenced, however, more ether should be poured into the cone, the air more perfectly excluded, and the patient hurried through this disagreeable stage as rapidly as possible. His countenance should be narrowly watched, however, and his breathing assiduously attended to. The moment the face commences to assume a purple or dusky hue the ether should be at once removed, and the tongue drawn well forward by means of a tablespoon handle or whatever else may be convenient. This is usually sufficient to re-establish a healthy breathing and due oxygenation of the blood. But if it fails, artificial respiration should be resorted to and cold water dashed in the face.

In Dr. Agnew's service he has given a mixing consisting of one part of chloroform and four parts of ether to thirteen patients. The average length of time in producing complete anæsthesia was three minutes. The average quantity of the mixture consumed was two ounces. Vomiting occurred in only three cases out of the thirteen. Three patients had eaten their dinners, but in neither of these did vomiting occur.

The general feeling among the surgeons of the Manhattan Eye and Ear Hospital seems to be that chloroform is dangerous, and that its indiscriminate use as an anæsthetic is unjustifiable.

ART. 110.—*Physiological Action of Chloral.*

By ALEXANDER EDWARD McRAE, M.D.

(*Edinburgh Medical Journal*, August.)

Dr. McRae has published an account of a number of experiments undertaken with the view of obtaining the objective phenomena exhibited in a healthy animal under the influence of a varying dose of chloral. The animals experimented on were rabbits.

The following were the general results observed: 1. When sleep began to come on the rabbits laid themselves in their natural position for sleep and seemed comfortable. 2. When asleep they sometimes moved as if shifting for a rest; sleep was not continuous. 3. Before sleep came fully on, and when the number of respirations was about its lowest, the respiratory movements were somewhat jerky. 4. When sleep was very profound the respirations were abdominal. 5. When asleep, but not totally anæsthetized, loud noises, if they did not waken them, increased the respirations. 6. When completely anæsthetized neither loud noises nor pricking influenced the respirations. 7. No rabbit recovered that was at any time completely anæsthetized. 8. When asleep they would frequently wake up and eat, then go to sleep again; and when the effects passed they ate ravenously. 9. The slowing of the respirations was the premonitor of sleep, and when the respirations fell to 28 death followed. 10. When asleep the increase of the respirations was the premonitor of resolution. 11. Shivering was not observed in any instance where death was to supervene, but it preceded resolution. 12. Sometimes 10 grains produced sleep; sometimes 30 grains had scarcely any effect; 60 grains in two cases killed, and in another did not produce complete anæsthesia. 13. Sometimes the hyperæsthetic state was of short duration; sometimes it was scarcely appreciable, so rapidly did the anæsthetic state supervene. 14. Small doses increase, large doses decrease, the co-ordination of nerve force. 15. Vision seems to be affected before hearing, hearing before smell, smell before touch. 16. Frequently, on recovery from a large dose, they preferred to sit under the fire, though hot cinders were falling upon them. 17. When anæsthetized the eyelids were generally fully open. 18. In falling they did not seem to have a tendency to fall to one side more than the other. 19. Salivation was occasionally exhibited, also relaxation of the sphincters, with increased peristalsis of the bladder and rectum. 20. The solution, when injected under the skin, was absorbed with great rapidity. 21. In the small doses, when the effects passed off, they seemed more lively after than before the experiment. 22. When ten or more grain doses were given, and sleep had passed off, they did not seem to have the power of co-ordinating their movements for some time. Their hind-legs were the first to give way, and the last to recover. 23. Of the voluntary muscles those of the ear, neck, and jaws were the last to give way and the first to recover. 24. Rigidity set in immediately after the respirations ceased. Sometimes the hind-quarters became rigid before the respirations ceased. 25. About four minutes was the time that elapsed between the injection and the manifestation of the first symptoms attributable to chloral. 26. The respirations were very considerably increased immediately the injection was commenced. 27. The injection almost always caused local inflammation, which ended in resolution, abscess, or gangrene. The latter was generally of the dry kind, as observed in senile conditions. 28. In no case was complete anæsthesia produced without death following.

Post-mortem appearances.—The superficial vessels were empty, and the parts consequently had a blanched appearance. All the internal vessels were full of blood. The walls of the heart were flaccid. Both sides of the heart were gorged with blood. The lungs were congested, with here and there apo-

plcetic spots. I have seen the same conditions in cases of alcoholic poisoning. The vessels of the encephalon were full of blood. The odor of chloral was distinctly perceptible in the substance of the brain.

Dr. McRea remarks: "The superficial vessels and arteries had contracted; and the heart, being gradually deprived of nerve force, was unable to contract on its contents and keep up the circulation; consequently, there being an impediment in front, the blood was retained passively in the venous tracts."

In small doses, it seemed to act as a stimulant, and produced heat of surface. In large doses, when the anæsthetic state was produced, the surface became cold. Professor Haidenhain, of Breslau, at the conference at Innsbruck in 1869, stated that "irritation of sensitive nerves produces a rapid diminution of blood-heat, a sensible decrease of the calibre of vessels, and a decrease in the frequency of the pulse." Now we have all these conditions produced by a dose of chloral. There can be no doubt that chloral, in certain doses, does act as an irritant, but of the toxic kind. Whether it acts as an irritant locally on the peripheries, or on the more distant centres, is a question that still remains to be settled. That it does reach the centres is beyond doubt, for we have found it abundantly in the brain tissues. If the above phenomena are caused by its local action, then it must be a most powerful local irritant—more powerful, indeed, than any other of its chemical fellows, whose action, generally speaking, is nearly analogous, such as alcohol or chloroform. It is true that the local effects produced by the hypodermic injection—viz., inflammation, abscess, gangrene—would rather favor the hypothesis of this local action; but we must remember that the solution used was necessarily concentrated; also, that, with the exception of a few rare cases, little or no inconvenience was caused by taking the same size of a dose by the stomach for many months together. Again, when a part is burned or rapidly destroyed, we see the local effects immediately, but no toxic condition follows. True, we sometimes have what is called shock; but the phenomena evolved are quite distinct, and recognizable from those produced by a toxic agent. Sensibility characterizes the one, insensibility the other. The presumption, therefore, is strong that chloral acts directly on the nerve centres.

When small doses were given, there was a very manifest exaltation of the temperature of the surface; when large doses were given, and the anæsthetic state induced, the surface got cold. The hyperæsthetic state was first induced and always was present, though once or twice its presence was scarcely noticeable, so rapidly did the anæsthetic state supervene; and when the larger doses were given anaesthesia followed, thus leading us to believe that the peripheral nerves became paralyzed, either by exhaustion of nerve force in the hyperæsthetic stage, or by direct poisoning and consequent molecular disturbance at the centres. We must here observe that when we remember Claude Bernard's experiments with the sympathetic nerve, it does seem anomalous to say that peripheral paralysis was present, and that the surface was cold, and the parts post-mortem had a blanched appearance. But we must also remember that the heart was paralyzed, and, consequently, the arterial system was empty, though the larger venous tracts were gorged. This condition, though helping to prove that the action of chloral is on the centres, demands explanation. Professor Stirling says that "there is a constant reflex influence maintained by a sensitive nerve upon the bloodvessel nerves." Nerve force being equally distributed to these two sets of nerves, the bloodvessels maintain their normal calibre. But when the peripheries of the sensitive nerves become paralyzed, the inhibitory nerve-fibres of Remak gain increased power, or at least gain the ascendancy (Meryon), the calibre of the vessels decrease, and consequently, also, the flow of the blood; hence the coldness of the surface and the blanched appearance of the flesh. When given in small doses it stimulates the sensitive nerves, which gain the ascendancy over the vaso-motor fibres; hence, we have relaxation of the walls, enlarged calibre, increased vascularity, temperature, and hyperæsthesia, exactly the opposite of what takes place when a large dose is given.

Could chloral be used in doses sufficiently large, so as to let the fibres of Remak gain the ascendancy over the sensitive fibres, and could this action be

localized and not become universal and lead to death, as we have seen by these experiments, then we should have in chloral a most potent power for good. This, however, can never take place so long as the body possesses absorbents. The fact that rigidity set in immediately after the respiration ceased, and sometimes before, thus producing a state analogous to that produced by intense cold, proves that chloral induces great depression of nerve force; and when this depression or exhaustion becomes general or complete death must follow.

ART. 111.—*Mode of Administering Creasote.*

(*Canada Medical Journal*, July.)

As creasote is now frequently employed in the treatment of typhoid fever, and is exceedingly distasteful to some patients, it may be worth while to mention here a formula which in a great measure covers its flavor, and is easily prepared: Creasote, 3 drops; essence of lemon, 2 drops; orange-flower water, 1 ounce; spring water, 3 ounces. A spoonful to be taken at frequent intervals throughout the day.

ART. 112.—*The Nature and Prevention of Communicable Zymotic Disease.*

By ALFRED L. CARROLL, M.D.

(*The Question of Quarantine*, 8vo. pp. 22. New York, 1872.)

Dr. Carroll's general conclusions are as follows:—

"I. Communicable zymotic diseases depend upon material organic poisons, and although some of them (as plague, cholera, etc.) may appear to be endemic in certain localities, and it is probable that they exist there only by the retention and recrudescence of their specific contagion; it is almost certain, at all events, that they do not arise spontaneously elsewhere.

"II. 'Quarantine of observation' should in all instances apply to living beings in whom contagion may remain latent, rather than to inanimate substances which may be disinfectants at once.

"III. Preventive measures should be adapted to the respective modes of contagion of the several diseases; stricter isolation being necessary in the case of those poisons which are volatile enough to be conveyed in the air or in vapor of water than with those which are transmissible only by solid or liquid media."

ART. 113.—*The Action of Antimony.*

By S. RADZIEJEWSKI, M.D.

(*Riechert and Du Bois-Reymond's Archiv*, Part iv., 1871, and *Glasgow Medical Journal*, May 1872.)

From a series of experiments on frogs and other animals Dr. S. Radziejewski comes to the following conclusions in regard to the action of antimony: 1. The emetic effect of the tartrate of antimony introduced into the stomach is the result of the action of the drug on the mucous membrane of the stomach, and not of its absorption into the blood. The effect of the peculiar irritation of the stomach produced by the substance is, by reflex action, to produce vomiting. 2. The depression of the action of the heart is also a result of reflex action, and not, as some have supposed, a special result of the action of the potassium contained in the tartrate. 3. Antimony has, in addition to its effects on the intestinal canal, also a general action on the organism corresponding to that of arsenic.

ART. 114.—*Methylene Ether.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(Medical Times and Gazette, November 23.)

Since the commencement of the recently revived controversy on anæsthetics, many members of the profession have asked Dr. Richardson for answers to inquiries they wished to have solved. Most pertinently stands forth the question of safety. "If you yourself were about to undergo an operation, and had determined on taking an anæsthetic, which would you select in respect of safety and convenience—chloroform, ether, your own bichloride of methylene, or other substance?" This was a question asked of Dr. Richardson within the last few days, and which he answered without the least hesitation. "For safety I might prefer ether, for convenience I should prefer methylene; but I should actually combine the two. I should inhale from a mixture of pure methylene bichloride and absolute ethylic ether, having a fluid specific gravity of 1.100."

The boiling points of pure methylene bichloride and of ethylic ether are within 4° Fahr. of each other; the vapor-density of each is nearly the same—that of ether being 37 and that of methylene 42.5, compared with hydrogen as the standard of unity. In combination, therefore, the two liquids yield a mixture possessing a steady and uniform boiling-point and a nearly equal vapor-density, so that equality of effect is sustained throughout a long administration. The vapor is, moreover, agreeable to inhale, it is neither irritating nor suffocating. Dr. Richardson is inclined to think, too, that the physiological action of the methylene is favorably modified by the ether.

For quickness of action the mixture thus described does not approach simple methylene bichloride, but for safety it stands hardly second to the safest anæsthetic Dr. Richardson ever experimented with—viz., methylic ether gas. It is best administered from a simple mouth-piece that has been constructed by Messrs. Krohne and Sesemann.

From three to six fluid drachms is the average quantity required to produce good anæsthesia.

For the sake of brevity, Dr. Richardson calls the combination methylene ether.

ART. 115.—*Electro Therapeutical Apparatus.*

By Dr. LINCOLN.

(Medical Press and Circular, July 25.)

At a recent meeting of the Boston Society of Medical Sciences Dr. Lincoln exhibited the electro-therapeutical apparatus of Brenner, consisting of a mahogany tablet thirty inches square, upon which are arranged the following instruments:—

1. "Current-selector" or switch-board, for introducing into the circuit any number of elements up to sixty. Brenner himself prefers the use of pegs to that of the switch, but they are more troublesome to handle.
2. "Upright tangent-galvanometer," the wire of which measures 0.008 inch in diameter and offers 82.4 B. A. of resistance.
3. "Commutator," for instantly reversing the direction of a current, whether galvanic or Faradic, without changing the position of the electrodes in reference to the body.
4. "Rheostat," forming a portion of an accessory circuit. It contains 2100 units of resistance (Siemens, = 200.7 B.A. units), and as these are arranged by tens the instrument enables us to measure 210 grades in the intensity of the current, whether generated by one cell or several. Brenner attaches great importance to its use in treating the auditory nerve, as by it we are enabled to begin with a very minute fractional dose of electricity and to raise the gaun-

tity by degrees, so as to avoid the infliction of a sudden shock, which might prove a serious injury.

5. "Rheotome." This instrument acts in two ways, depending on the arrangement of certain pegs connected with it. In the first place, when a constant current is flowing, it can produce a single momentary interruption; in the second place, the current not flowing, it can produce a single momentary passage of the current: and the shock—from the interruption, or from the passage of a current, as the case may be—can be made to last a longer or shorter time by sliding a metal plate in or out. The instrument is essentially composed of a finger of brass, swinging horizontally upon a pivot, and its course impinging upon the plate of metal just mentioned—the current enters at the pivot—and is conveyed through the brass finger to the metal plate during the moment of contact.

6. "Automatic interruption of the constant current." This consists of a "Neel's hammer," similar to those attached to the electric alarm-bell. The rate of rapidity with which interruptions can be effected varies from four to ten in the second, which is sufficient for practical use. The indicator of the galvanometer, which during the passage of the uninterrupted current would mark 35° , points to the neighborhood of 15° and 20° when the current is interrupted by this apparatus; showing that a great quantity of the current still passes.

7. Du Bois-Reymond's "sledge apparatus" for generating the Faradic current. The primary coil contains about 320 turns of wire, the secondary 9970. The tetanizing effects of the current from the primary coil seems greater than that from the secondary; its *quantity* is distinctly apparent in the deflection of the galvanometer-needle to the extent of nearly one degree. The secondary coil gives a spark of a tenth of an inch only, its construction not being suited for the development of the enormous tension which some of Mr. Ritchie's coils display.

The hammer is made in two pieces, the inner of which may be drawn out like a telescope slide for the purpose of retarding the rate of vibration. By weighting it with two or three small copper coins it may be retarded still further, giving as few as four strokes in the second; the extreme rate of rapidity being indicated by the production of the musical note *F*, proving that 168 interruptions per second are effected.

The motive power of this Faradic apparatus is furnished by two Leclanché elements; the galvanic current is obtained from sixty Daniell's cells, as modified by Siemens and Halske.

The Leclanché element consists of a cylinder of zinc immersed in a solution of sal ammoniac, and a piece of carbon packed with powdered binoxide of manganese and carbon in a porous cell. The cheapness of the exciting fluid—for only one fluid is required—is a recommendation of this form of battery; it is said also to be very constant, and it certainly makes very little trouble or dirt. It generates ammonia gas when in action, which would be an objection to the use of a large number of cells in an occupied room.

The Siemens-Halske element cannot well be described without a diagram. It is a very constant element and requires little attention. The metal and fluids are the same as in an ordinary Daniell's cell, but the diaphragm (of porous clay) is reinforced by a layer of papier-maché some inches thick, which increases the resistance very much.

The arrangement of switches in the apparatus is such that three patients can be operated upon at once, one receiving the current from the primary coil, another that from the secondary, and a third the galvanic current.

The apparatus deserves especial praise for the solidity with which all connections are made, and the accuracy with which the switches are adjusted and the pegs fitted. The only instrument liable to be injured by careless usage is the Faradic apparatus, especially the hammer; it would not be a proper thing to entrust to the management of a nurse; but it is capable of producing a great range of effects, and its currents are very smooth and equable.

Krüger and Hirschman, of Berlin, constructed the apparatus.

In answer to a question from Dr. Bowditch, Dr. Lincoln said that the papier-

maché served the purpose—First, in keeping the zinc and copper at a fixed distance from each other; and second, in offering a great resistance, which increases the penetrating force of the current. In passing from the zinc to the copper, the current had to traverse two inches of the densely-packed papier-maché besides the earthen diaphragm.

ART. 116.—*On Electro-Therapeutics.*

By GEORGE M. BEARD, M.D.

(*Medical Press and Circular*, July 10.)

At the annual meeting of the American Medical Association, Dr. George M. Beard, of New York, read a paper on Recent Researches in Electro-Therapeutics. He spoke of the great and rapid improvements in apparatus, claiming superiority for America over Europe in this respect at present; and exhibited a battery and its attachments made by the Galvano-Faradic Manufacturing Company of this city. He demonstrated his methods of "localized electrization," "general Faradization," "electrolyzation," and "central galvanization." This last consisted in "placing the negative pole at the pit of the stomach, and applying the positive over the head, sympathetic, and pneumogastric in the neck, and down the spine, so as to bring the whole central nervous system under the influence of the current." It had proved very useful in certain obstinate skin diseases, as well as in hysteria, neuralgia, neurasthenia, and many other nervous affections.

Among the points he had recently demonstrated were these:—

The nutrition of children was often much improved by general Faradization. Two pups of a litter of four were treated by the speaker in this manner, and were found at the end of a month to weigh several ounces more than their mates.

Children bore electricity better than adults; but some constitutions could not endure it, however administered.

Maglignant growths could sometimes be treated with great advantage by a method of "working up the base electrolytically." The advantages of electrolysis in the treatment of these tumors were less hemorrhage, less shock, less danger of pyæmia, and more rapid healing. It would almost always relieve the pain of tumors, but did not prevent constitutional infection.

Dr. A. B. Crosby, of New York, spoke of a case of chronic eczema of the leg under his care, which had resisted other treatment, but was decidedly improving under "central galvanization," as just described. Also, of a case of organic stricture of the rectum, where he had assisted Dr. Beard in an electrolytic operation after returning the sphincter.

ART. 117.—*The Hot-Sand Bath.*

(*Medical Times and Gazette*, October 19.)

A correspondent (R. D.) calls the attention of his professional brethren to the hot-sand bath which has been established by Dr. Conradi at 22 Aberdeen Place, Maida Hill, London.

The patient is introduced into a warm, comfortable room, in which is a bath, fenced round with curtains, filled with sand heated to about 100° to 120°. In this a longitudinal groove is scooped to receive the patient, who is wrapped in a sheet and so protected from contact with the sand. There is a comfortable pillow for the head.

Then the bath-operator gradually covers up feet, legs, arms, and trunk with the warm sand. A bucket of hotter and one of cooler sand are at hand, so that the temperature can be adjusted with the greatest nicety. The feeling of warmth is very agreeable, and the weight of the sand is just enough to cause a pleasant sense of compression and support. After an hour's delightful

repose the patient rises, is refreshed by a sluicing with hot water, and goes away refreshed.

The effect is very different from that of hot water, and still more from that of hot air or steam. There was absolutely no commotion of the heart, nor any of the grilling effect on the windpipe which R. D. has experienced in Turkish baths. Altogether, it seems a good thing when we want to produce measured perspiration and relieve congestion of the internal organs.

ART. 118.—*Bleached Tincture of Iodine.*

(*Medical Press and Circular*, October 16.)

It is said that sulphite of soda will decolor iodine and yet increase its effect. Here is the formula: R. Tinct. of iodine; glycerine, pure, aa 3j; sulphite of soda, 3j. Rub the salt to a powder in a small mortar, and add the glycerine gradually; then pour in the tincture of iodine and triturate gently, until the solution is effected and the mixture assumes an amber color.

ART. 119.—*Test for the Purity of Creasote.*

(*New York Medical Record*, October 1.)

It is said that creasote may be distinguished from carbolic acid (which is sometimes substituted for it) by mixing the suspected sample with pure glycerine; pure creasote is insoluble in this medium, whereas carbolic acid makes a bright solution, and when present in considerable quantity it makes creasote also soluble in the mixture.

ART. 120.—*Treatment of Chloroform Accidents.*

By CHARLES KIDD, M.D.

(*British Medical Journal*, October 26.)

Dr. Kidd suggests a steady uniform trial of electricity to the lungs, not heart; no Silvester or Marshall Hall methods, but a gentle turning of the patient on the side; trial of electricity for at least two hours, acupuncture of the heart as a last forlorn hope. A fine needle should be introduced in the intercostal space, so as to reach the heart's apex, the auricle to be avoided.

ART. 121.—*On the Use of Baths in Acute Rheumatism attended with Head Symptoms and High Temperature.*

By HENRY THOMPSON, M.D., F.R.C.P., Physician to the Middlesex Hospital.

(*British Medical Journal*, August 3.)

A case has lately occurred in the Middlesex Hospital illustrating the beneficial effects of the bath in acute rheumatism attended with head symptoms and high temperature. Dr. Thompson, in his remarks on the case, observes that it is only now and then, in a few rare and scattered instances, that acute rheumatism proves fatal by an unexpected outbreak of overpowering nerve-symptoms, and such a result would have ensued in the instance recorded, according to Dr. Thompson's opinion, if the bath had not been used. The fatal issue in similar cases was formerly referred to the occurrence of metastasis, meningitis, and the like, but now it is said to be due to hyperpyrexia. To this last term, if used in a practical sense, Dr. Thompson makes no objection, as the importance of very high temperature cannot be overrated as a symptom; but in a pathological point of view he thinks that its influence has been exaggerated, for the nerve-symptoms invariably precede the hyperpyrexia. Never-

theless a high body heat, ranging from 108 degrees to 112, is incompatible with life, and it is necessary to lower it by such means as are available, and Dr. Thompson thinks that the use of the bath is the best therapeutical agent. The temperature of the bath is 90 to 95 degrees in the first instance, and is gradually reduced by the addition of cold water to 70 degrees. The clinical thermometer must practically be the best guide for the employment of the bath, for, at a lower body temperature than 102.5 degrees it would not be desirable to use it. It is important to observe that in the case recorded by Dr. Thompson the most severe and extensive chest complications, such as pneumonia, pleurisy, bronchitis, and pericarditis, underwent no perceptible change for the worse in consequence of the bath.

ART. 122.—*Kerosene Oil in Chronic Rheumatism.*

(*New York Medical Record*, October 1.)

A New Zealand physician recommends the internal administration of this substance, a teaspoonful taken in a wineglassful of water every other night, having been the form in which it was administered to the case which he reports as cured by it. It is stated that no unpleasant symptoms were produced; no loss of appetite, or effect upon the functions of the bowels or kidneys.

The unpleasant taste has been palliated in some cases by allowing a pinch of salt to dissolve in the mouth before taking the remedy.

ART. 123.—*On the Treatment of Rheumatic Gout by the aid of the Constant Galvanic Battery.*¹

By JULIUS ALTHAUS, M.D., M.R.C.P.

(*British Medical Journal*, August 24.)

The author of the paper commenced with some remarks on the nature and pathology of rheumatic gout, which he likened to the atheromatous process in the internal tunic of the arteries occurring in old people, and which, he said, was one of those highly insidious and chronic inflammatory conditions characteristic of the period of involution and senile decay. After glancing at some results of recent microscopical research in the morbid anatomy of rheumatic gout, the usual treatment of this disease was criticized and found to be open to improvement. The author had, for the last six years, sought and found opportunities to use the constant current in such cases, and had been well satisfied with the results. It could not cure rheumatic gout; it could not prevent the patients from advancing in age, nor check altogether the process of involution and senile decay to which the system must in the end succumb; but it did good in the following ways: 1. It acted as a general tonic to the system, and improved all the most important functions of the body, if applied in a peculiar manner which was described in the paper. 2. It procured sleep, even in cases where opiate or chloral did not answer. 3. It relieved the pain. 4. If perseveringly applied it reduced deformities. The author did not wish to imply that the use of internal remedies should be altogether eschewed in the treatment of this disease, as by thus acting we should only deprive ourselves of many chances to do good to our patients; but in the cases treated by him he had given the first place to the constant current, and given medicines internally only for removing complications. He laid stress upon the necessity of persevering with the galvanic treatment for a considerable time in order to do permanent good, and gave directions as to the way in which the treatment should be carried out.

¹ Read before the British Medical Association.

ART. 124.—*Styptic Colloid as a Local Application in Erysipelas.*

By GEORGE F. ELLIOTT, M.D.

(*The British Medical Journal*, Oct. 26.)

Dr. Elliott calls attention to the great value of Dr. Richardson's styptic colloid as a local application in erysipelas. It will usually be found sufficient to paint it freely over the affected surface about twice in twenty-four hours, though there can be no objection to using it oftener should the comfort of the patient require it. Its application will be found to be almost immediately followed by relief from the peculiar stinging sensation and feeling of teuseness in an erysipelatous part, and it seems to have a desired effect in arresting the progress of the disease. It has the additional merit of affording protection from air, it has an agreeable odor, and it is cleanly. Its disinfectant properties, too, would probably be useful in preventing the diffusion of the *materies morbi* in hospitals.

ART. 125.—*Disinfection in connection with Smallpox.*

By CHARLES R. C. TICHBORNE, F.C.S., M.R.I.A.

(*Medical Press and Circular*, July 31.)

At a recent meeting of the Medical Society of the College of Physicians of Ireland, Mr. Charles R. C. Tichborne read a paper on—

DISINFECTION IN CONNECTION WITH SMALLPOX.

"It has been conclusively proved that all rooms are filled with a certain amount of dust moving about in variable quantities—at least, to all intents and purposes it may be considered as never being absent. The greater proportion of this dust, as shown by Tyndall in the analyzing tube, is organic, or, in other words, can be destroyed by heat. As regards experiments performed upon the development of bacteria, they would properly only bear upon epidemic diseases from this point of view; but I myself do not see that there is anything particularly to connect them with smallpox or such like contagious diseases. They are always the forerunners of putrefactive change when atmospheric air has been in contact, but this simply proves that the germs of bacteria are always present in ordinary atmospheric air. Here is a substance that was once a solution of milk sugar, now converted into solid lactate of lime by germs taken at as high an altitude as the top of Nelson's Pillar. But these results can be obtained equally well when there is no smallpox in the city.

"There is, however, another view to take of the atmospheric propagation of disease, which, I think, has been too much lost sight of. This is the mechanical action of this dust, or the raft theory, as I will call it. I, however, lay no claim to the use of the word raft. It was used by Professor Tyndall in one of his lectures to explain how the particles of a *non-volatile* salt, chloride of sodium, were always found in the air. Now, as we know that the virus of smallpox may be dried without impairing its activity, we have all the requisites for dissemination by the atmospheric rafts. If we consider the immense amount of inoculable matter that is disseminated in a city like this, where 600 or 700 lie ill of the same contagious disease, we shall see no difficulty at arriving at this conclusion. I have no hesitation in saying that there is not a cubic inch of atmosphere in Dublin where the smallpox virus is not. But, like all poisons, there is, I suppose, a point of attenuation where it is inert, and to keep it below that point is the great use of volatile disinfectants. The dried virus floating upon those rafts cannot be affected by non-volatile disinfectants.

"I am of opinion that it would be dangerous in the extreme to cast away these now old and well recognized friends. In fact, to me it seems to be only within the last few years that we have been beginning to understand the princi-

ples of disinfection. Does not the real difficulty of disinfection lie in our misapplication of each particular disinfectant, which has its peculiar function, and our want of knowledge of its action on those germs at present unknown? If we use chlorinated lime to disinfect a room (chlorinated lime being simply an oxydizer), what do we do but facilitate the efforts of the atmospheric oxygen to purify by oxydation. We charge the air with nascent oxygen, or that element in its most active form. Thus this air that had been already artificially deprived of its activity outside by contact with contagious matter, is reoxydized to its maximum capacity. Now, although this is quite consonant with our chemical knowledge, it might be said that, after all, it is but a theory; but let us see how it agrees with our experience.

"On the first week in November, 1871, in an establishment, the name of which, from obvious reasons, it is not desirable to mention, a case of smallpox occurred; as there were about 200 beds in this establishment it is almost needless to remark that considerable alarm was felt by those with whom rested the responsibility of management. A consultation was held, and a well-known and well-advertized disinfectant was used with every precaution as regards cleanliness. Imagine the consternation when case after case was sent out of the house, until the eleventh was taken to the hospital on the 6th January, who died on the 11th of the same month—a case every fifth day. A consultation was again held, and with advice the following plan was adopted. The disinfectant was changed, and the use of carbolic acid and chlorinated lime was agreed upon. The carbolic acid (pure) was chiefly used in water-jugs, a few drops in each jug. A man was told off especially to disinfect the place, and to do nothing else. In the morning he made his solution of 'chloride of lime,' about $\frac{1}{2}$ lb. or 1 lb. to the gallon of water, in a large tub. It was allowed to subside, so that it was quite bright and clear when he wanted it for use. At three o'clock P.M. he went through all the rooms, sprinkling the solution over every floor, and the windows were left open, so that the rooms were dry by the time they were required for use, equal attention being paid to the mechanical cleaning of the walls. The change in the system of disinfection was made on the morning of the 11th of January, the day when the last case was buried, and from that day to the present there has not been a single case of smallpox in this seething mass of humanity.¹ Permanganate of potash is invaluable for certain special applications. Here is a simple experiment, which, I think, conclusively proves the value of chloride of lime as an oxydizer. I blow through a series of wash bottles and tubes. In the first bottle the air traverses a fermenting mass containing a weak solution of a ferrous salt. If the air contained any readily available oxygen (it matters not whether we consider it ozone, or condensed oxygen, or nascent oxygen, if it does its work) it will be deprived of it. The fact is demonstrated by being passed over ozone test-paper contained in the next tube. There is no evidence of decomposition. It is then passed in the next bottle through water containing a few drops of chlorinated lime, and then through a wash bottle containing a solution of ammonio-chloride of silver to remove any trace of chlorine. It lastly passes through a tube containing the ozone paper, which is now seen to be rapidly acted upon by the air. It is completely changed in its character, and is now a powerful oxydizer; and it is immaterial to our purpose how this has been brought about. It is now replenished, ready to do its duty and fight the battle with the rafts of contagion, and if it only succeeds in further attenuating the effects of this poison by burning up a fraction, the 'disinfectant' has done some good.

"Xylol's action is said to be due to the fact that it becomes an antiseptic in the blood. Now it is probable that if it does act as such, it is due to some product of oxydation. That it is really rapidly oxydized there can be no doubt from the fact that a peculiar odor, distinct from xylol, can be perceived in the urine.

"From the reports of the medical men I should consider the efficacy of xylol as doubtful, but it is self-evident that it may not necessarily possess specific

¹ On the 24th of June, when this paper was going through the press, this house was still free from any case of smallpox.

properties to be an active medicine. I would require a lengthened experience of its capabilities at the bedside to determine its actual value in the human laboratory. Although its action may be generally prognosticated, it can never be proved in the test-tube.

"I have tried experiments upon dilute solution of albumen and vibrios, from which it would appear to me that the dilute solutions of carbolic acid destroy the activity of the vibrios before they coagulate the albumen. The more diluted the solution of carbolic acid the more marked is the phenomenon. The sulpho-carbolates being crystalloids are more suitable for diffusion than the carbolates, whilst the residual carbolic molecule acts as if uncombined. In addition to the sulpho-carbolates of iron and sodium, I should suggest the use of the potash salt, which, from its action upon the skin and kidneys, would probably be useful. It is readily prepared.

"In seeking for a remedy for internal disinfectives of the blood, it is evident, from my point of view, that we should try to search into the substances which will produce in the blood the antiseptics slowly, but in a nascent condition.

"As I have studied the subject of disinfection and atmospheric dust with some care for years, I thought that these observations might be of use from the very fact of being trammelled by the ideas of a chemist. Out of a great mixture often comes good compounds. I almost feel that we are in a degree neglecting our duty in not constructing committees of investigation upon such occasions as the present visitation."

Dr. Cameron said, as he had recently read a paper on this subject, he wished to make a few observations, more especially as he apprehended that the views Mr. Tichborne had put forward might appear to clash with those which he had submitted to the society. He (Dr. Cameron) did not at all doubt the efficacy of gaseous disinfection to a certain extent, but what he said was this—and he spoke from the results of his own experience—that gaseous disinfection, as ordinarily carried out, was totally inefficacious as a means of wholly destroying germs in a room. He held that the recent experiments of Chauveau—who occupied the first position as an investigator in this department of medical science—and more recently the experiments of Dr. Burdon-Sanderson, one of the Medical Inspectors of the Privy Council and Professor in the Brown Institute, rather indicated that as a rule the contagious matter of zymotic diseases was deposited on solid substances. The great use of the disinfection at present employed was that it obliged people to open the windows and let in the fresh air. They all knew how well the Germans did everything in scientific and medical matters, and he would mention the results of their experience of disinfection during the visitation of cholera in Leipsic in 1866. The chemical professor, Carus, was appointed head disinfector of the town, which was divided into 100 districts, each of which had a separate inspector. Never was disinfection more thoroughly carried out. Every house in which cholera appeared was disinfected with chlorine gas. And what was the result? There had been thirteen outbreaks of cholera in Leipsic since the first appearance of the disease in Europe, and never was the attack so severe as in the year 1866, when disinfection was carried out in so careful a manner. It was the same in Stettin and Erfurth, where disinfection was carried out under the orders of the government and by a staff such as we could not have in this country. His views had been adopted by the Public Health Committee of the Corporation. They had increased their staff, and now, instead of merely disinfecting a room with chlorine gas, they removed the paper, if there were any, from the walls, scraped off the old whitewash, and whitewashed the walls afresh. If the whitewash did not destroy the infectious matter, at all events it imprisoned it. By the use of common water and whitewashing more good would be effected than by the circulation of thousands of feet of chlorine gas.

Dr. Hayden said he was particularly pleased at hearing Mr. Tichborne's paper read so soon after the paper of Dr. Cameron, which, with all respect to him, he thought missed the point. Dr. Cameron seemed to think the atmosphere could not be a medium for the conveyance of disease. That, however, he (Dr. Hayden) doubted. Dr. Cameron, that evening, said it would be sufficient to cleanse the walls, but if it be true that the air was impregnated with organic

matters, every one of which might be the medium for conveying the *morbis materia* of disease, he could not see how that could be neutralized without acting on the whole body of air in the room. He was glad to hear this practical paper of Mr. Tichborne's, because the opinions urged in it had fallen in with his own preconceived views.

Mr. Tichborne, in reply, said that Dr. Cameron, who had not heard the whole of his paper, had mistaken the drift of it. His theory was that the contagious matter of smallpox was a substance which was carried on the atmospheric rafts and deposited on the clothes. Before it could be deposited on the clothes it must be passed through the air; and he proposed to act upon it by gaseous disinfectants. Dr. Cameron believed in the germ theory of disease generally. There was evidently something in it; but if he believed in it, one thing was self-evident—namely, that non-volatile disinfectants could do no good for they could not touch it; but volatile disinfectants would be found effectual; and this was wonderfully borne out by the case he had stated that evening, which was only one of several similar cases that had occurred under his own observation.

ART. 126.—*The Prevention of Pitting in Variola.*

By ALONZO L. LEACH, M.D., of Philadelphia.

(*Philadelphia Med. Times.*)

Dr. Leach wishes to call attention to the carbonate of lead, the ordinary white lead of the paint-shops, which he has used in several cases of confluent variola with success. His mode of using it is to add to the paint a sufficient quantity of linseed-oil to make it of the consistence of rich cream, and then, by means of a camel's-hair pencil, apply it to the face. This he has done in the vesicular stage of the eruption, but perhaps it might be well to use it even earlier—in the papular stage. A few applications form a complete covering to the face, at once excluding all possible access of air or light. It is soothing to the parts, allaying irritation and quieting inflammation, and in those cases where he has used it it has been effectual in preventing the pitting. It commends itself from its easy mode of application, its cheapness, the readiness with which it is obtained, and from the fact that it disposes of the dark room so religiously observed by many practitioners, and that a few applications render all future interference unnecessary.

He adds that for the delirium of the disease the bromide of calcium is of signal benefit. All of the bromides would be equally serviceable, but that of calcium, containing a larger per cent. of bromide, is more decided in its action.

ART. 127.—*Alcohol as a Nutritive Agent.*

By H. P. BOWDITCH, M.D.

(*Medical Press and Circular*, July 25.)

We find in the new number of the *Boston Medical and Surgical Journal* a paper on this subject, read before the Boston Society of Medical Sciences, by Dr. H. P. Bowditch, in which he observes that the experiments of Dr. Subbotin were performed on rabbits inclosed in an apparatus by means of which the exhalations of the skin and lungs could be examined for alcohol. The urine was also collected and examined for the same substance.

The experiments showed that in the first five hours after the introduction of 3.45 grammes of alcohol into the stomach of a rabbit, about two per cent. was eliminated by the kidneys, and four per cent. by the lungs and skin.

Experiments extending over a greater length of time led to the conclusion that, usually, during twenty-four hours at least sixteen per cent. of the injected alcohol leaves the body in an unchanged condition (or perhaps as aldehyde), and that besides this elimination by lungs, skin, and kidney, a portion of the alcohol is oxydized in the organism. Although by this oxydation force must be set free in the organism, the author does not consider that alcohol is on that

account to be regarded as a nutriment, for the functions of the animal body depend for their performance, according to Dr. Subbotin, upon the transformation of living material—i.e., of the constituent parts of the body—and not upon the decomposition of matter foreign to the body.

In a note appended to Dr. Subbotin's essay, Professor Voit expresses himself as follows: "I do not agree entirely with Dr. Subbotin in his views on the importance of alcohol as a nutriment. I define a nutriment as a substance which is capable of furnishing to the body any of its necessary constituents or of preventing the removal of such constituents from the body. To the first class belong such substances as albumen (since it can be deposited as such in the body), or fat or watery or the mineral constituents of the body; to the second class belong such substances as starch, which hinders the loss of fat from the body. If a nutriment is defined as a substance which by decomposition furnishes living force to the body, the definition would not be exhaustive, for it would exclude water and the mineral constituents of the body. Alcohol must, therefore, to a certain extent, be regarded as a nutriment, since, under its influence, fewer substances are decomposed in the body. It plays in this respect a similar (though quantitatively very different) part to that of starch, which also protects fat from decomposition and, when taken in excess, causes deposition of fat in the organs or fatty degeneration. If a part of the alcohol is decomposed in the body into lower forms of chemical combination it *must* give rise to living force, which either benefits the body in the form of heat, or may perhaps be used for the performance of mechanical work; the same is true of acetic acid, which is also not to be considered as an ultimate excretory product, and from which, therefore, in decomposition potential force passes into living force.

"It is another question, however, when we ask what importance alcohol has for us as a nutriment, and whether we take it in order to save fat from decomposition and furnish us with living force, in other words, to introduce a nutriment into the body. Since alcohol, when taken in considerable amount, causes disturbances in the processes of the animal economy, we cannot introduce it in quantities sufficient for nourishment, as we do other nutriments, and in the amount which we can take without injury its importance as a nutriment is too small to be considered. In this point, then, I agree entirely with Dr. Subbotin; we use alcohol not on account of its importance as a nutriment, but on account of its effects as a stimulant or relish."

Professor Voit's definition of a nutriment is rather more comprehensive than those usually given, but it has the merit of great exactness, and of leaving no doubt as to its applicability to any given substance. Whether this definition or any other be adopted, it is, of course, essential, as a preliminary to the discussion of the nutritive value of alcohol or any other substance, that we should define as exactly as possible what we understand by the terms "nutriment" and "nutrition."

Although, as Professor Voit says, alcohol cannot, under normal circumstances, be introduced into the body in sufficient amount to be of any importance as a nutriment without producing toxic effects, may it not be that in those morbid conditions of the system where large amounts of alcohol are borne without causing narcotism, the nutritive properties of the substance really become important, and that patients who are supported by alcohol through periods of great weakness or exhaustion are really nourished and not simply stimulated by it?

ART. 128.—*The Remedies for Tapeworm.*

By T. SPENCER COBBOLD, M.D., F.R.S.

(*Worms; a Series of Lectures on Practical Helminthology.* London. 1872. Pp. 178.)

"The remedies for tapeworm," Dr. Cobbold writes, "are male-fern, kousso, kamela, turpentine, panna, pumpkin-seeds, and pomegranate root bark. The right administration of any one of these is likely to produce the desired result;

but many other drugs have been and still are employed with more or less success. Patients have consulted me after trying five or six of the above-named remedies, to say nothing of others not worth mentioning. Some practitioners seem to think one vermifuge as good as another. Because they find *santonin* a useful remedy in threadworm, and almost a specific in roundworm, it by no means follows that the same drug is effective, or even of the slightest value, in tapeworm. When so many excellent tapeworm vermifuges abound, it becomes a waste of time to dwell on the virtues of second and third rate drugs, such as oxide of silver, tin, scammony, jalap, and various other drastic purgatives, which exert no poisonous influence upon the worm. Dr. Shapter, of Exeter, has employed chloroform with success; at least, speaking of one or more cases thus treated, he says 'the cure was effectual and without distress of any kind.' Now, supposing it was really necessary to try several drugs in succession, I would recommend their adoption separately in the order I have just placed them. Of course, in no individual case will you ever be called upon to indulge in such a practice. Without asserting their actual relative value as tapeworm poisons, I give them a preference in the order in which they are here recorded. Probably, as I have elsewhere said, there is no better remedy for tapeworm than oil of turpentine, and yet its nauseous character, combined with the fact that it not unfrequently produces irregular and violent effects upon the nervous system, are circumstances always inducing me to substitute other drugs. From cases which have come under my notice, I have no doubt whatever as to the great anthelmintic virtues of turpentine."

ART. 129.—*Koumiss, Blanda, Syre, Sigre, or Airen.*

By JAMES T. GEORGE, M.R.C.S.E., Keith, Banffshire.

(*British Medical Journal*, Sept. 21.)

For upwards of twenty years Mr. George has used as a restorative medicine the vinous liquid procured by the fermentation of cow's milk, and although a liquor has been for some ages employed by several tribes of Tartars as procured from the fermentation of mare's milk, it was with difficulty he could learn the particulars of the mode of preparing it. The method which the author has adopted in his own practice with success, and which was communicated to him by a Russian gentleman, is as follows:—

Take of newly-drawn milk any quantity; add to it a little water, and pour the mixture into any vessel. Use as a ferment an eighth part of the sourest cow's milk that can be got—but at any future preparation a small portion of old koumiss will better answer the purpose. Cover the vessel with a thick cloth and set it in a place of moderate warmth. Leave it at rest twenty-four hours, at the end of which time the milk will have become sour and a thick substance will gather on the top; then with a stick, made at the lower end like a churn staff, beat it until the thick substance be thoroughly blended with the subjacent fluid. Leave it again at rest for some time; repeat the beating, after which pour it into a narrow vessel like a churn, agitate the liquor until it be perfectly homogeneous. In this state it is called *airen*.

Its taste, if properly prepared, ought to be a pleasant mixture of sweet and sour (agitation must be employed every time before use). When it is necessary to have it quickly made, heat the milk before applying the sour milk, and agitate every hour or half hour. By doing this it is obtained in twelve hours. If well secured in close vessels and in a cool place it can be kept a long time without injury to its qualities. If made in a glass vessel—that is to say, if it undergo fermentation in it—it must not be more than two-thirds filled, in case the bottles burst. When it is bottled for keeping any time the bottles must not be full, and the corks must be fastened as lemonade in bottles.

In cases of general debility Mr. George has given it largely, with essential service, as a nutritive, and has found it of great use in typhoid fever, the patients using it for meat and drink. In a few cases no other remedy was

used, young and old taking it. In nervous, dyspeptic, and hypochondriac subjects its use for some time has a powerful restorative effect, giving flesh and strength. Invalids, not only without disgust, but with a sort of pleasure, drink it in large quantities, and, even when they do so without headache or other unpleasant feelings, which the abuse of other fermented liquors produces. In pulmonary consumption, when cod-liver oil cannot be taken, Mr. George has found it (but at the same time using whisked cream) equally, if not more efficacious, in relieving cough and giving plumpness to the body. From its mild acid, its vinous spirit, and its oily qualities, he considers it to be a cooling antiseptic, a mild stimulant and tonic, and a valuable nutrient.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 130.—*Abstract of Lectures on the Surgical Treatment of Aneurism in its various forms, delivered before the Royal College of Surgeons of England.*

By T. HOLMES, F.R.C.S., Professor of Pathology and Surgery.

(*British Medical Journal*, June 15, 22, July 6, Aug. 3, 24, and 31.)

LECTURE I.

Mr. Holmes, after thanking the Council of the College for the honor of his appointment, proceeded to remark upon the great changes which had been made in the surgical treatment of aneurism since this subject had been brought before the College of Surgeons, forty-three years ago, by Mr. Guthrie, and which had necessitated a totally different view of the surgery of this disease from that which he took. Mr. Guthrie's teaching led to the inference that, with few exceptions, aneurisms which are not curable by the Hunterian method are not curable at all. But the success of pressure, as invented by the Dublin surgeons, of the rapid method of pressure under chloroform, of the flexion of the limb in popliteal aneurism, and of digital pressure, has given a new impulse to the search for milder methods of cure in the more accessible forms of aneurism. The same success has also led to the conclusion that there are no forms of aneurism, however near the heart, which are in their own nature absolutely incurable; and has accordingly stimulated surgeons to test the value of sundry plans newly introduced into practice for the cure of aneurisms situated on arteries which are inaccessible to operation. Such are galvano-puncture, distal ligature and distal pressure, manipulation, coagulating injection, the introduction of foreign bodies into the sac. None of these novel plans had as yet proved regularly successful; but it was intended to show, in this course of lectures, that some of them rest on a sound pathological basis, and that further experience will, in all probability, obtain success with them regularly in a certain proportion of cases—though the frequent connection of internal aneurism with extensive degeneration of the arteries or disease of the heart forbids us to hope for anything like the success which is obtained in external aneurisms.

The main propositions to be sustained in this course of lectures were announced to be as follows:—

1. Aneurisms, of whatever form or however near the heart they may be, ought not to be regarded as incurable, but should be made the objects of definite methodical treatment, internal or external.
2. There is definite proof, from pathological anatomy and from surgical experience, of the curative influence of Brasdor's operation in innominate aneurism, and of its beneficial effects in some case of aortic aneurism.
3. Arteries may be successfully tied and obliterated without their continuity being interrupted; and this modification of the ligature, whilst affording much security against secondary hemorrhage, and thus much diminishing the danger of the operation in general, may very probably in future enable surgeons to deal successfully with cases in which it may be necessary to tie the first part of the subclavian (whether on the distal or the proximal side of an aneurism) or the innominate artery.
4. Galvano-puncture may be used with, at any rate, temporary benefit in thoracic aneurism; its use is not so dangerous as to render further trials of it

inexpedient; and there is good hope that the method may be so far perfected as to make it a safe and regular plan for the treatment of thoracic, subclavian, and other forms of aneurism.

5. Many cases, such as those in which ligature of the artery near to the heart has been resorted to for the cure of subclavian and subclavio-axillary aneurism, may be made amenable to improved methods of pressure.

6. Aneurismal tumors situated even as high as the lower part of the abdominal aorta, those of the mesenteric and other branches of the aorta, and of the iliac arteries, may be treated with success by rapid coagulation of blood under pressure; but this method is a dangerous one, and should not be used until internal treatment had failed.

7. There are cases of abdominal aneurism in which Mr. Syme's suggestion of reviving the old operation is worthy of further trial.

Instances were then adduced of the cure of aneurism of the aorta by the resources of nature, and others in which that disease had been cured and the patient restored to health by the enforcement of persistent rest and quiet, more particularly one under Mr. Stanley's care, related by Mr. H. Ludlow in the fifth volume of the *Pathological Transactions*, and one under the care of Mr. Joliffe Tufnell.¹ The spontaneous cure of innominate aneurism was also exemplified by a preparation from the Museum of St. George's Hospital.

The various plans of treatment for thoracic aneurism were enumerated. Short mention having been made of the injection of ergotine into the cellular tissue, and of the introduction of iron wire and other foreign bodies into the sac—plans which do not hold out much promise of success—the lecturer proceeded to discuss the internal or medical treatment of internal aneurism. This treatment, a modification of that of Valsalva, had been described by Abernethy and by Mr. Holmes himself, but has been methodized and brought to perfection by Mr. J. Tufnell. It should be the treatment always first put in practice in any case of internal aneurism, thoracic or abdominal, before the adoption of any more dangerous measures.

Brasdor's operation was then discussed. After a short history of its introduction, Mr. Wardrop's reasoning was considered, by which he endeavored to prove, not only that the operation will succeed where there are no collaterals between the sac and the ligature (which appears indubitable), but also that in innominate aneurism perfect consolidation may be produced by tying the carotid and the third part of the subclavian, even though all the four large branches from its first part intervene between the second ligature and the sac. This is opposed to the facts which we know (some of which were instanced) proving the very rapid development of the collateral circulation in man. Mr. Fern's case² was admitted as proving that sufficient coagulation may follow this operation to produce a practical cure; but the radical cure of the disease—i. e., the entire obliteration of the tumor by laminated coagulum, appears impossible under Wardrop's plan.

Turning from theory to the results of experience, these are twofold—viz., the pathological anatomy of cases where distal impaction of clot has occurred in innominate and aortic aneurism, and the history of cases in which Brasdor's operation has been performed.

The history of the case, previously alluded to, at St. George's Hospital, of spontaneous cure of aneurism of the innominate artery, was detailed, and the preparation (obtained after the man's death, four and a half years later from phthisis) exhibited. Cure had, in this case, been produced by impaction of clot in the carotid artery. This had caused the obliteration of the whole tumor, with the exception of a small channel by which the blood reached the subclavian artery. A drawing was exhibited, taken from a case where the carotid was tied on the distal side of an innominate aneurism, by Dr. Wright, of Montreal, which showed a condition of parts absolutely identical. Mr. S. Lane's and Sir W. Ferguson's cases of distal ligature of the carotid were also adduced

¹ In his pamphlet on the *Successful Treatment of Internal Aneurism*.

² The preparation from this case is in the College Museum.

in proof of the same proposition—viz., that the distal ligature acts in these cases in exactly the same way as the distal impaction of clot; that its natural (though not necessary) effect is to obliterate the carotid portion of the tumor, and that this may suffice to remove all symptoms of the disease. Again, cases were adduced from the Westminster, the London, and St. Bartholomew's Hospitals to show the effect of distal impaction of clot in the mouth of the subclavian artery, and to prove that in these cases the subclavian portion of the sac becomes obliterated, and that the distal ligature of the carotid artery would have almost certainly produced the obliteration of the tumor and saved the patient's life, which in two of the cases was lost by the bursting of the tumor into the windpipe and in the third from suffocation. The undeniable inference from these facts is that Brasdor's operation for innominate aneurism rests on a sound pathological basis.

LECTURE II.

Some preparations and histories of cases were referred to, showing that in aorta as well as in innominate aneurism the distal obliteration of one of the arteries leading out of the sac would be followed by the consolidation of that portion of the sac which used to be distended by the stream of blood passing up the occluded vessel. Reference was then made to Mr. Guthrie's objections to the distal operation. These were, first, that the distal operation when it cures does so by producing inflammation in the sac. It was shown that this rested only on the history of two cases in which suppuration in the sac had followed the operation. In one instance, however, there had been an interval of a year, and the suppuration evidently depended on accidental causes and not upon the operation; and it was shown that in the majority of successful cases of distal ligature, no inflammation has occurred. Mr. Guthrie's other objection rested upon an examination of some preparations in the Museum of the College: but it was shown that these preparations were not sufficient to support any definite conclusion.

The lecturer then proceeded to review the published cases of distal operation in thoracic aneurism, of which forty-three were tabulated. These were as follows: 1. Four cases of successive distal ligature of the carotid and third part of the subclavian. In one of these, Mr. Fearn's well-known case, the preparation and drawing of which were exhibited, a cure resulted—the aneurism becoming lined on all sides by firm coagulated laminae, through the centre of which a channel remained for the circulation.

2. The second class consisted of eight cases, in which the carotid and subclavian artery were tied simultaneously. Two of these were strictly on Brasdor's method; the subclavian being tied in its first part as it leaves the sac. In one of these cases, Hobart's, the subclavian artery was said to have soundly united. The preparation was exhibited; but the subclavian had unfortunately been removed in making the post-mortem examination. The history, however, seems to prove the possibility of tying this artery successfully. In the six other cases comprised in this class the subclavian was tied in its third part. Mr. Heath's case was specially commented on, in which the patient derived great benefit from the operation and survived four years—the aneurism being aortic. Another case, under Mr. Holmes's own care, as related, in which the aneurism was innominate; but, the aorta being also affected, the operation failed. In this instance the arteries were tied with carbonized catgut and no ulceration had taken place leading to the division of the arteries.

3. The third class of cases were those in which the carotid only was tied. In eleven of these the aneurism was innominate. A drawing was exhibited from the case in which Dr. Wright, of Montreal, was the operator. Here the whole of the aneurism was consolidated, except a channel leading into the subclavian artery. The state of parts exactly resembled that of the spontaneous cure of an innominate aneurism exhibited in the last lecture; and there could be little doubt that the patient would have been cured had he survived the operation. In seven other cases either the carotid or the subclavian was implicated as well as the innominate. In two of these the patient was perfectly

cured. Mr. Evans's survived the operation more than thirty years, and Mr. Morrison's died suddenly from disease of the heart, having been perfectly cured of aneurism, as proved by post-mortem examination. In four other cases the aneurism was aortic, mistaken for innominate; and in none of these did any benefit result.

LECTURE III.

The review of the table of cases in which the distal operation has been practised for thoracic aneurism was concluded. In seven cases the left carotid has been tied for disease known to affect the arch of the aorta, and the operation has proved beneficial in all except one, in which the patient died from the direct effects of the ligature. One case was especially referred to, now under the care of Dr. Cockle, in which the carotid artery was tied by Mr. Heath in February last, and the patient was shown after the lecture to those present. The growth of the aneurism has been materially checked, and the patient is now in perfect health and able to walk fourteen miles without fatigue. The table of cases concluded with two of distal ligature of the third part of the subclavian for innominate aneurism, by Wardrop and Broca, in both of which also the operation was beneficial. The following conclusions appear to be those justified by present experience on the subject of Brasdor's operation on innominate aneurism: 1. The distal ligature of the carotid alone, or in conjunction with that of the third part of the subclavian, cannot be trusted to produce the complete consolidation of the tumor. 2. The natural effect of the ligature of the carotid artery is to produce coagulation in the part of the sac directly connected with the mouth of that artery. 3. This may suffice, practically, for the cure of the aneurism when the subclavian portion of the sac is small, and shows no disposition to grow. 4. In other cases where the mouth of the subclavian is previously obliterated by impacted clot, the ligature of the carotid alone may effect a radical cure. 5. For these reasons it is better, in any case which appears to require distal ligature, to commence with the operation on the carotid alone, and afterwards to consider the propriety of securing the subclavian in either its first or its third part.

The question of the justifiability of operating on the first part of the subclavian was then considered. The operation has always hitherto failed from secondary hemorrhage, and the possibility of repeating it justifiably depends on the possibility of obliterating an artery without dividing it. An historical summary was given of the attempts made with this view by John Hunter, Clime, and others, in the early days of the ligature; by Sir Philip Crampton, Mr. Porter, and others, with the *presse-artere*, acupressure, etc., and with the silver ligature; and it was shown that, although occasionally successful, these methods had not hitherto proved trustworthy. The history of the catgut ligature was then traced from its first introduction by Sir Astley Cooper. Porta's experiments and operations were referred to, and the experience lately acquired with the carbolyzed catgut ligature was related. A preparation was shown in which Mr. Holmes had tied the carotid and subclavian arteries in the human subject with this substance; the patient having died from another cause about nine weeks after the operation. Both arteries were undivided; the subclavian permanently closed by organized tissue, the carotid obstructed by clot. The collateral circulation during life had hardly been developed to so great an extent as usual; the pulse being only very faintly perceptible in either the radial or the temporal, thus showing that the trunks were really obliterated. This case furnished anatomical demonstration of the possibility of tying arteries without subsequent ulceration, the material of the ligature being subsequently absorbed. The reason for the failure of catgut ligatures in the hands of the older surgeons appears to be, that the wounds were not treated so as to produce rapid consolidation of their deep parts, and possibly the ligatures were not properly prepared. If subsequent experience prove it to be generally possible to secure this result of tying an artery, it might be justifiable to operate distally on the first part of the subclavian artery, though the chance of finding it diseased would render the operation very dangerous. Reference was made to the uncertainty of diagnosis between innominate and aortic aneurisms; and it

was suggested that the indications for operation in cases of supposed innominate aneurism should be drawn from the progress of the case—that is from the apparent extension of the sac up the course of the carotid artery and towards the trachea. With respect to the ligature of the left carotid for aortic aneurism, it appears also to be beneficial in the same way—that is, by obliterating the carotid and the portion of the sac through which the stream passed into the carotid.

The next subject treated of was galvano-puncture, and it was shown that by the galvanic currents clots of more or less solidity could be formed in an aneurismal sac. It was also shown, by reference to a case of subclavian aneurism under the care of M. Abeille, that these coagula may ultimately attain sufficient firmness to obliterate the aneurismal sac. At the same time it must be allowed that such coagula are frequently not stable, but soften and melt down again into the blood-stream, thus rendering the operation nugatory. Further experience is required on many of the most essential details of this method; and these ambiguities and uncertainties form a valid ground for rejecting the operation—at least, for the present—in any case in which the artery is fairly accessible above the tumor.

LECTURE IV.

Galvano-Puncture Thoracic Aneurism.—It was shown that in thoracic aneurism growing against the chest wall, death is often the result of inflammatory action between the resisting chest walls on the one hand, and the growing sac on the other. This may possibly be stopped, if the blood in the external portion of the sac can be firmly coagulated by the galvanic current, even though it should be impracticable to consolidate the whole tumor. This point was illustrated by a preparation in which the aneurism had perforated the parietes, and formed a large secondary sac under the skin. A table was produced from Signor Ciniselli's work, showing the results of all the operations of this kind hitherto practiced for thoracic aneurism, these results being much more favorable in the last few years than they had been when the method was new. Several cases have occurred in which the operation has been followed by an interval of health, extending in two cases over two years, in another twenty-one months, and in a fourth over a year. There is no evidence of absolute and permanent cure in any; and, in fact, the general coincidence of extensive atheroma renders relapse probable in aortic aneurism, even if the first tumor can be entirely consolidated. Still, it is argued, the check to the growth of the aneurism anteriorly puts the patient in better condition for the internal treatment after Mr. Tufnell's plan. The question, then, is the same as in other surgical operations undertaken for the treatment of disease certain, or almost certain, to occur—viz., whether the benefit produced, allowing it to be temporary, was worth the risk incurred. This can only be answered by experience, which hitherto seems to prove the affirmative.

The dangers of electro-puncture are chiefly from the inflammatory reaction produced in the sac and surrounding cellular tissue, from the tendency to gangrene of the punctures, and from the liability to embolism. The first may probably be diminished by coating the superficial parts of the needles with vulcanite, after Dr. Duncan's method. The second, Signor Ciniselli proposes to obviate by passing the positive stream through the needle for a short length of time before applying the negative pole. The last danger proceeds probably from the too great softness and instability of the clots formed by galvanism. This is also a frequent cause of relapse in cases where the pulsation has been temporarily suspended by galvanism. The best plan for avoiding it appears to be to use a weak continuous current for a very considerable length of time; but further experience is necessary on this point. Instances were mentioned proving that death, when imminent from the rupture of the tumor, may sometimes be averted for the time by coagulating the blood by means of the electric current; and, on the whole, it was urged that this method of treatment deserves more extended trial in thoracic aneurism presenting externally, and that it should be used at a period before the external growth of the tumor has reached such an extent as to make the disease incurable.

The treatment of subclavian aneurism by surgical operation was shown to have been hitherto hardly less unsuccessful than that of innominate aneurism. The Hunterian operation on the innominate, or the first part of the subclavian, has hitherto been practiced in about twenty-eight cases, only one of which on the innominate proved successful, and that only after repeated secondary hemorrhage. The ligature of the second or third part of the subclavian, which can only be done in aneurisms that are as much axillary as subclavian, has been practiced in twenty-one cases with only nine recoveries. The distal ligature appears out of place here, since it throws the stress of the collateral circulation on the diseased part of the vessel, and is therefore more adapted to increase the aneurism than to check its growth. It has been practiced four or five times with uniformly fatal result. To all these failures seven cases are to be added in which the operator was unable to tie the artery, and in one of these manipulation of the parts seems to have produced the consolidation of the aneurism, which was spontaneously cured. The possibility, however, is not to be lost sight of, that by improved methods of deligation in future, whereby an artery may be tied without its subsequent division, the operation on the innominate or first part of the subclavian may be justifiable if those arteries can be found healthy. But preparations of this disease show that very commonly the artery or arteries nearer the heart are extensively diseased. This was illustrated by Mr. Collis's case from the College of Surgeons of Ireland, and Mr. O'Reilly's from the Richmond Hospital, Dublin.

Another interesting question is, whether in some cases the second part of the artery might not have been tied instead of the first; a much less dangerous operation. A preparation of Mr. Liston's appears to show that this would sometimes be feasible. The second part of the artery should also be tied in cases where the third part has been exposed and found diseased. All these operations, however, for ligature of arteries in subclavian aneurism must necessarily be exceedingly dangerous, and this renders it the more necessary to seek for some treatment not involving cutting operations. It seems doubtful at present whether the first part of the subclavian artery can be effectually compressed for the length of time necessary to cure an aneurism situated lower down; but a trial of this method under chloroform would be advisable in appropriate cases. In the subclavio-axillary form compression may be often successfully used. This is proved by a case recently published by Mr. Poland, and by one of Mr. Gay's still under treatment; and it is noted in several of the published cases of subclavian aneurism that the pulsation of the tumor could be stopped by moderate pressure. Direct compression may perhaps assist in the cure.

LECTURE V.

The following points were proved regarding subclavian aneurism in the last lecture—viz., that such aneurisms are usually of small size, of tubular form, and connected with extensive disease of the artery on the proximal side; that the Hunterian operation rarely succeeds even on the third part of the artery, and has never been successful on the first, and that some more profitable treatment must therefore be sought for; that in some of the cases where the first part of the artery has been tied, the second part might possibly have been secured; and that compression, which has been occasionally used with success, deserves a more extensive trial. It remained now to consider the more dangerous plans of galvano-puncture and manipulation. The history of manipulation since its introduction by Sir William Fergusson was given; showing that in seven cases in which it has been used, five of them being cases of subclavian aneurism, a cure was effected in one of the subclavian and one of the popliteal, and in none was there proof of any serious mischief; from which the inference was drawn that the method was one which may be rationally used in the cases not amenable to the ordinary resources of surgery. The same may be said about galvano-puncture, which also has been used with success, although in the majority of cases the clot has proved unstable and has broken down again, and in one recent case death has occurred from embolism. Amputation at the shoulder-joint, it was considered, ought, in the present state of our experience to be reserved for cases in which gangrene is either imminent or has set in.

Abdominal aneurisms were divided into those which affect the abdominal aorta or its branches as high as the pancreas, those of the lower part of the abdominal aorta, and those of the iliac arteries. It was remarked that all these aneurisms are susceptible of spontaneous cure; and that in other cases such aneurisms progress very slowly, a remarkable instance of which was related in the person of a well-known Irish surgeon. An instance was also related of the consolidation of an iliac aneurism during confinement to bed, published by Mr. Joliffe Tufnell. Such instances show that surgeons should not be too eager to resort to dangerous methods of treatment, but should try first to effect the cure of the aneurism by internal treatment. This having failed, we must consider the surgical treatment of the above three classes of tumors. First, aneurism situated as high as the pancreas involves either the trunk of the aorta or one of its branches, usually the superior mesenteric. Those situated on the trunk of the aorta are inaccessible to any surgical measure except distal pressure or ligature. Distal pressure was used lately by Mr. Bryant in a case of aneurism at the root of the celiac axis. The pressure produced death by contusion of the small intestine, setting up enteritis and peritonitis. A considerable amount of coagulum was found in the aneurismal sac. Still the ultimate cure of the aneurism, if the patient had survived, seems very doubtful; and the propriety of using this method can hardly be said to be established. Theoretically, there seems little probability of cure, since the collateral circulation must go on through the portion of artery involved in the disease. Nor does distal ligature hold out any hopes of cure.

The subject of mesenteric aneurism was next discussed. This is less uncommon than is generally supposed; and some examples of it were brought forward—one in a patient still under observation at St. George's Hospital, and others from pathological collections, etc. In some of these cases the aneurism during life appears limited, rounded, and movable; and the idea might occur of treating it by the old operation of laying the sac open, the circulation being commanded by a tourniquet on the abdominal aorta. The specimens, however, showed that very commonly the tumor runs up by a flask-like prolongation under the pancreas into the trunk of the aorta, rendering such an operation impracticable, and rendering the application of pressure also very dangerous, from the probability of contusing the upper portion of the thin sac. There are, however, a few cases of mesenteric aneurism in which the tumor is more limited, and which would probably be curable by pressure; which plan of treatment ought, therefore, to be cautiously applied in any appropriate case.

The second class of abdominal aneurisms are those affecting the lower part of the abdominal aorta, and it was an aneurism of this sort which was cured by Dr. Murray, of Newcastle, in his original trial of compression. This is the only case in which it has been proved by dissection that an aneurism seated above the bifurcation of the aorta has been cured. Mr. Durham has published a case in which he believes that he has effected the same thing; but the patient is still living. A preparation and diagram from Dr. Murray's case were exhibited.

These cases show the feasibility of curing abdominal aneurism by rapid pressure under chloroform; but the propriety of attempting its cure by gradual pressure without chloroform ought not to be lost sight of, as originally suggested by Mr. Holmes before the occurrence of Dr. Murray's case. This plan is free from dangers of rapid compression, and might be trusted to succeed, though not very frequently.

The third class of aneurisms are *iliac*. It was in reference to these that Mr. Syme proposed to revive the old operation in the abdomen. The history of this proposal was given; and it was shown that some older surgeons—viz., Velpeau, Scarpa, Desault, and Roux—had proposed or applied the old operation in the axilla and in the groin. And Mr. Skey and Sir James Paget had operated in this way in rupture of the axilla artery. Mr. Syme, however, was no doubt original in his proposal to treat an iliac aneurism in this way; and his partial success in the operation which he performed was rendered possible by his employing the aortic tourniquet. Sir Astley Cooper had, it is true, attempted to carry out the same operation, having the aorta compressed by two

assistants ; but he failed to find the artery. The reasoning on which Mr. Syme based his proposal assumes that in every aneurism there is a definite point at which the artery opens into the aneurism, that the sac travels along the arterial wall, and that the portion of the wall of the artery thus included in the aneurismal sac is healthy. On the other hand, Mr. Henry Lee asserts that in the majority of aneurisms there is no such definite point of communication, and that an attempt to operate in the manner prescribed by Mr. Syme would usually terminate in a failure such as occurred to Sir Astley Cooper from that very cause. This question has to be discussed in the next lecture.

LECTURE VI.

The propriety of performing the old operation for abdominal aneurism depends on the answers which we can give to the following questions : First, is it true, as Mr. Syme says, that in every aneurism there is only a limited portion of the vessel contained within the sac or embraced by its wall ? Secondly, is that limited portion capable of supporting the ligature and taking on reparative action ? Thirdly, can the operation be performed with confidence on the surgeon's part that he will be able to complete it ? And, finally, allowing that this is so, is it preferable to the other ways of treating a given case ? Diagrams were exhibited showing that occasionally an aneurism has the precise form which Mr. Syme regarded as universal, but that in a very large proportion of the specimens in our museums either there is disease of the portion of artery near the opening, or there is a large tubular sac without any definite commencement of the aneurism at all, or there are such important parts—*e. g.*, veins, nerves, etc.—matted to the sacs as would render it impossible to lay it all open ; or the artery running through the sac is so completely incorporated with it that it would be exceedingly difficult in an operation to find it. And, in abdominal aneurisms especially, it was shown that these latter forms of sac are more frequent than in other regions. Hence, even judging from dissected specimens, it would seem that Mr. Syme's operation would very often be extremely difficult, if not impracticable ; and in the living body there would be many additional difficulties which do not appear in a dissection. From all this it seems that Mr. Syme was wrong in believing that he had proved the superiority of the old method over that of Hunter. Besides, it seems, both from Mr. Syme's and Sir Astley Cooper's operations, that the method can only be used in cases where the abdominal aorta might be compressed. We must, therefore, answer the above questions in the negative, and allow that the preferable method of treating iliac aneurism, as a general rule, is compression. But in cases where compression has been tried and failed, as in a case published a few years ago by Mr. Hargrave, of Dublin, in which he tied the iliac artery, it seems that the operation recommended by Mr. Syme is worthy of trial ; for, although exceedingly dangerous, it may be trusted to succeed in a certain proportion of cases ; and the Hunterian operation, as practised upon the common iliac, is shown by past experience to succeed so very rarely that it is worth giving a trial to the other method. Mr. Hargrave's case was referred to, and the preparation from it was produced as an instance in point. Here the aneurism was of the tubular variety, and communicated also with the external iliac vein. It seems, however, that, with a very long incision, both ends of the artery and the venous communication which was known to exist might have been discovered and commanded ; and in a less complicated case the operation would of course be proportionately easier.

The method of cure by rapid compression was next discussed. It is impossible to deny that coagula may be formed in a few hours, or even a shorter period, by the total suspension of circulation through an aneurism, which may acquire sufficient solidity to obliterate it permanently. This, however, does not uniformly occur ; nor has any proof been given that the method of rapid or total compression is more successful generally than the method of gradual or partial compression formerly in use. In the abdomen, rapid or total compression cannot be carried out without serious danger. This danger depends partly on the risk connected with the protracted administration of chloroform,

which is usually, though not always, necessary; partly on the interference with the circulation produced by the pressure, whether from interference with the action of the diaphragm, or from compression of the great sympathetic centres; partly on contusion of the viscera, pancreas, intestines, etc.; partly on contusion of the secondary branches of the aorta and vena cava; partly on renal congestion, due probably to pressure on the renal vein. The reality of these dangers was illustrated by three fatal cases which have recently taken place in London, and by the symptoms of others in which the pressure did not prove fatal. These facts show the desirability of attempting the cure of such aneurisms by milder measures, if possible. At the same time, the cure of abdominal aneurism by pressure is one of the greatest and most brilliant achievements of modern surgery, and is the only one of the modern methods treated of in this course which can be said to have been undoubtedly successful. The other methods, such as distal ligature, galvano-puncture, manipulation, etc., applied to thoracic aneurisms, are doubtful remedies for diseases which are in themselves almost incurable; but compression is not a more doubtful remedy than the ligature; and abdominal aneurism is a far more curable disease, and much less frequently associated with extensive degeneration of the circulatory system, than thoracic aneurism.

The lecturer then announced that, if he should deliver the course of lectures on surgery another year, he would speak of the surgical treatment of external aneurism.

ART. 131.—*The Origin of Cancer.*

By CAMPBELL DE MORGAN, F.R.S., Surgeon to the Middlesex Hospital.

(*The Origin of Cancer.* London. 1872. Pp. 87.)

From the following extract it will be seen that Mr. De Morgan regards cancer in its early stages as a local disease, either with or without a pre-existing constitutional tendency:—

“With regard to the general contamination of the system by cancer—the cancerous cachexia—this, as has been said, is not a primary condition; it does not occur until the disease has made considerable advance; it may not occur at all. Cases are numerous of patients having open cancer for years without any appearance of being the subjects of serious disease; for they neither lose flesh nor appetite. Again, patients often die from unulcerated cancer, especially of the internal organs; wasting away and becoming exhausted, without showing the characters of the cancerous cachexia. But they also die in the same way from the internal development of enchondroma and fibro-plastic disease. It is in the cases of ulcerated cancer that we see this cachexia most strongly marked. And no doubt, in these cases the whole of the fluids of the body become contaminated; the continual absorption of so foul a discharge as is then present would quite account for this. We know that the continual discharge from an unhealthy ulcer or a foul abscess will induce destructive poisoning of the system; and we can readily conceive that the discharge from a cancerous ulcer will be far more poisonous, and vitiate the blood to a greater degree and possibly in a special manner. All that can at the most be shown is that when cancer is formed, and has grown to a certain extent, it may become a source of contamination to the system; but it does not afford the slightest confirmation to the view that the primary seat of cancer is in the blood. Nay, it is evident that this cancerous cachexia must be something very different from any supposed blood-condition which precedes or accompanies the earlier stages of the disease. For, as we have seen, the cancer may exist for years, and no cachexia manifest itself; but if the cachexia once appear, death within a short time is inevitable. It is quite clear, then, that this vitiated state of the blood, and indeed we may say of all the tissues of the body, is in no sense, or at any time, the cause of the primary development of cancer, but is always the result of the advanced progress of the disease in time or extent. As a rule, we do not find any special tendency to new growths, even though the system be poisoned

by this absorption of effete cancer elements. The expectation of finding this cachexia, as a diagnostic sign of the disease, is fraught with most serious evil.

"The general conclusion at which I should arrive is, that in some persons and in some parts there is a tendency, local in its origin, to the formation of tumors. That this tendency may in some have been implanted in the tissue, even in its embryonic condition, though the actual development may not take place till years after birth; in others, although there may be a disposition to morbid growth, the actual tumor will not be developed unless under some irritation. That the morbid growth having once taken place it will remain localized or become diffused in proportion to the facility with which its elements can be taken up and carried off by the structures amongst which it lies. That the period during which these elements may remain dormant is indefinite. That, save in degree, there is no real difference between the malignancy of cancer and that of some other forms of tumor, and that even the line between malignant and non-malignant growth is not clearly defined. I should place cancer, then, at the top of a scale, at the lowest point of which might be placed the simplest form of outgrowth identical in structure to the affected parts."

Mr. De Morgan goes on to say:—

"If the surgeon consider the case a proper one for operation, whatever be the mode he may fix on, there are two positive rules which, if there be any truth in the views of cancer here maintained, he must obey—1st, to operate early; and, 2d, to operate thoroughly. Reasons have already been given why an operation should be done as early as possible. There can be no reason, according to any ordinarily received opinion on cancer, why a cancerous tumor should not be removed as soon as discovered. There are many reasons why it should. Given a defined tumor in the breast of a woman over thirty, and however negative other signs may be, sooner or later we may be sure that an operation will be required. There may be cases of general or partial enlargement of the breast with pain and hardness which, while in the end they may prove cancerous, yet may result from simple chronic irritation, and which subside under proper treatment: such cases it will be right to watch. There may be cases in which a lump in the breast presents characters which leave a surgeon in doubt whether he has to deal with a tumor, or a deep abscess, or a cyst. Here exploration may be necessary; and if this reveal the existence of abscess or cyst, simple evacuation of the contents may be all that is required.

"But if tumor be undoubtedly present, such as sarcoma, or colloid, or adenoma, it is true that no harm might come from waiting; though no good would be done. But suppose it to be cancerous; what irreparable mischief may not ensue from delay? To-day the glands may be free, to-morrow they may be infected; not to such an extent as to attract notice, but not the less to be the nidus of future cancer growth. To-day all existing disease may be within the range of our operation; to-morrow disease may be distributed far beyond. Yet what is more common than for a surgeon, when a patient has pointed out to him 'a lump' in her breast, and he has found that she is in good health, that there is no puckering of skin or retraction of nipple, and that the glands in the axilla are not enlarged, to assure her that she need not be uneasy, but that she should watch the swelling, and apply ointments, lotions, &c. A month or two afterwards, perhaps, she is seen again; and then there is adhesion of skin and a small hard gland in the axilla. What does this puckering of skin, &c., imply, save that the influence of the disease, or rather the disease bodily, has been spreading in all directions, and that possibly it may have extended beyond reach, even if it could be detected. Are the chances of success equal under these altered circumstances? I shall believe that only when I find that leaving behind a visible piece of cancer structure in an operation is of no consequence. So insidious is cancer, that I suppose no patient has ever had a suspicion of its existence, and no surgeon or pathologist has ever seen it in its strictly primary stage. Can it be doubted that if removed at that time the chances of reappearance would be enormously diminished?

"I should say, then, that in the case of a doubtful tumor the surgeon ought not to wait till its true character has revealed itself; but that he should proceed

forthwith to ascertain its nature by exploration, and be prepared at once to remove it if it turn out to be cancer, or any disease likely to become serious. He would save his patient much risk and much anxiety."

ART. 132.—*On Acupressure, Acutorsion, and Torsion, especially in Amputations.*

By Professor BILLROTH.

(*Wiener Medicinische Wochenschrift*, xxi. 43; *Schmidt's Jahrbücher*, No. 4, 1872.)

Professor Billroth has applied these methods in the occlusion of about 200 arteries, and in fifteen instances to the femoral, in some of which the thigh was amputated high up. There was no opportunity of applying any of the methods in amputation at the hip-joint, and Professor Billroth does not think that any one is suitable in amputation at the shoulder. Acutorsion was more frequently practised than acupressure. In one instance only was the removal of the needle followed by hemorrhage, the cause of which was faulty introduction of the needle; the artery, which was the brachial, was compressed by the proceeding of acupressure alone. Practically, acutorsion is the preferable proceeding; it is safe, and in amputation easily applicable, but cannot be substituted for the ligature in every case. With regard to the material of the needle, Professor Billroth has concluded in favor of gold, which, for short needles of moderate strength, is to be preferred to any other material.

Simple torsion has been tried by Professor Billroth in excisions of the breast, but seldom with any good results. The cause of these failures is the absence in excision of the mamma of conditions favorable to this method; in torsion, the end of the vessel should be well isolated, and the stump of the artery be seized by firmly compressing forceps, and, finally, the end of the artery must be at some distance from the origin of the nearest branch. Professor Billroth has frequently practised torsion with very good results in amputations at the leg, foot, arm, and forearm, and applied it to the majority of the arteries in amputation of the thigh. In one case only did he find subsequent hemorrhage; this was from the posterior tibial artery.

Much traction and twisting of the artery produce a long thrombus, but are attended with this disadvantage, that most of the twisted portion of vessel becomes necrosed.

Extended thrombus formation and the danger of necrosis forbid the practice of torsion in venous hemorrhage, which may be readily controlled by ligature or acupressure. In amputations below the knee and elbow, torsion is a very reasonable proceeding, so long as no branch springs immediately above the divided end of the artery.

ART. 133.—*Treatment of Traumatic Neuralgia.*

By S. WEIR MITCHELL, M.D., Physician to the Philadelphia Orthopædic Hospital and Infirmary for Diseases of the Nervous System.

(*Injuries of Nerves and their Consequences*. 8vo. pp. 377. London: Trübner & Co., 1872.)

In the treatment of traumatic neuralgia the author says:—

"The pains of traumatic neuralgia are so terrible that we are usually driven at once to the use of narcotic hypodermic injections, without which it would often be impossible to relieve such cases. In neuralgia, from what we call, for want of a better term, irritation of nerves, there is reason to believe that some of the opiates, in the form of hypodermic injection, may prove more or less curative in their action; but where, as in most traumatic neuralgias, there is manifest organic alteration of the nerve, such agents are chiefly of service because they relieve pain, and thus enable us to bridge over, so to speak, the

many months of torture which are needed to bring the nerve back to health again, or to afford time for electrical or other treatment. . . . At the present time, this mode of using narcotics has grown into common use, but even yet it is scarcely estimated at its full value. In the wards for nerve wounds in the U. S. A. Hospital it is almost the only plan of treating severe neuralgic pain; so that twice or thrice a day the resident surgeons passed around these wards with their narcotics and hypodermic syringes, seeing, as a physician observed to me, anguish and troubled faces before them, and leaving behind them comfort, and even smiles.

"During one year at least forty thousand doses of various narcotics were administered without an accident, and in certain single cases upwards of five hundred hypodermic injections were used; so that, if there were no other evidence of the innocence of this mode of medication, our own experience would have been amply competent to settle the question. I have had large opportunity of studying, in traumatic neuralgia, the comparative merits of narcotics used by the mouth or under the skin, and I have no hesitation in stating my opinion that the latter method is not only the more effective, but also the less harmful, constitutionally. For the easing of neuro-traumatic pain we tried, in turn, the whole range of medicines known as narcotics, such as conia, hyoscyamus, daturia, atropia, and morphia. None of them, save the last, seemed, when singly used, to be of the slightest value; and, one by one, they were laid aside, until, in the vast mass of cases, the salts of morphia alone were employed. A careful series of examinations showed, very distinctly, the trifling influence of atropia upon this form of pain. Several cases of intense neuralgia from wounds were treated with injections of sulphate of morphia under the skin in rising doses. When we learned the amount needed to give entire ease, we used in its place next day a full dose of atropia, our largest injection having been one-fifteenth of a grain. The most absolute failure attended these efforts; so that, without denying to this latter drug the power ascribed to it of relieving certain neuralgias, I am sure that it is in the traumatic species simply useless. The morphia salts, on the other hand, are invaluable. For hypodermic use, I usually employ at first one fourth of a grain of the sulphate, but I have given as much as a grain and a half twice a day. When continuously used, it is curious that its hypnotic manifestations lessen, while its power to abolish pain continues; so that the patient who receives a half grain or more of morphia may become presently free from pain, and yet walk about with little or no desire to sleep. The ability to lessen pain is not, therefore, of necessity, connected with the sleep-compelling potency. Where, however, the latter is inconveniently felt, and we desire the former only, it is possible to attain the end in view by using with the morphia a certain share of atropia. Thus, if we inject half a grain of sulphate of morphia, and with it the thirtieth of a grain of sulphate of atropia, the anæsthetic force of the morphia will rest unaltered, but the tendency to sleep will be greatly diminished. The views here set forth were reached after long and careful experiments on large numbers of men, and seem to justify the practice of using atropia and morphia together. As regards the place of injection, I agree with most observers that it is generally of little moment, the effect being the same whether it be thrown into the affected limb or into a remote part. The single exception to this I shall presently mention."

This exception occurs in the treatment of the burning pain, or, as it is called, *causalgia*, for which—

"A vast number of means were tried to ease or cure, but the one essential for comfort was the use of water dressings, which were unceasingly removed, the sufferers carrying a bottle of water and a sponge and keeping the part covered. I have never known a man afflicted with *causalgia* who did not learn very soon the use of this agent, and I never knew one who could be induced to exchange it for any other permanent dressing. Further relief was given by hypodermic injections of morphia used twice a day, and injected into the tissues of the affected part. I am well aware that this is not in accordance with recent views as to the equal efficacy of injections at points remote from the seat of the pain, but I am well satisfied that in *causalgia* something is gained by the local

proximity. Numerous experiments were made to determine whether as full relief might not follow injections at distant points, but although the injecting of the burning hand produced in many cases torture, the patient was sure to insist upon it after a few trials of other localities."

ART. 134.—On Traumatic Jaundice.¹

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 36, 1872.)

The author distinguishes etiologically two kinds of traumatic jaundice: 1. A direct traumatic jaundice resulting from a wound or an operation involving the liver itself. 2. Indirect traumatic jaundice, which occurs after a wound or an operation upon some more or less remote organ.

Cases of traumatic jaundice of the first kind present no difficulty. They are admitted and recognized by all authors. Their gravity is subordinated to that of the initial lesion.

Of the second kind of jaundice M. Verneuil describes two varieties: one caused by septicæmic changes in the blood and constituting pyæmic jaundice, which is but a symptom of purulent infection; another which is without doubt due to a perversion of nervous action, and to which the author proposes to give the name of *reflex* traumatic jaundice.

This last-mentioned variety of indirect traumatic icterus, concerning which little has been hitherto known, forms the chief subject of M. Verneuil's contribution.

In the first place the author details three cases which served as a starting point of his researches. The first case was of a man twenty-five years of age, who on the fifteenth day after amputation of the leg suffered from gastric disturbance and jaundice, with a characteristic slackening of the pulse (to fifty pulsations) and a marked lowering of the axillary temperature. The patient recovered.

The second case was of an English lady who, on the second day after an operation for anal fistula, presented all the symptoms of hepatic colic with jaundice. This patient had for some time previously suffered from congestion of the liver, which had manifestly predisposed to the jaundice. The patient recovered.

The subject of the third case was an old drunkard, who had cirrhosis of the liver, stricture of the urethra, and a urinary abscess. M. Verneuil incised the abscess and performed external urethrotomy. On the day after the operation severe jaundice, accompanied by anasarca and adynamic symptoms, came on. The patient recovered.

The two last facts justify one in concluding with M. Verneuil that an antecedent organic lesion of the liver would be the necessary predisposing condition for the production of traumatic icterus, whilst this preliminary morbid change is not implicated in the pathology of direct traumatic jaundice, nor in that of pyæmic jaundice.

The diagnosis of each of the three varieties of traumatic jaundice is generally easy. In the first it suffices to make out the direct lesion of the liver; in the second variety one will observe the symptoms of pyæmia; in the third one would have to examine the circulatory apparatus and thermometric tracing, which would constantly give reduction of the pulse and depression of temperature.

Although generally a serious lesion, the prognosis of jaundice consecutive to wounds varies much according to the nature of the complication. The gravity of direct traumatic jaundice will depend on the disorder produced in the liver by the wounding agent. Pyæmic jaundice is always very serious, like the general malady of which it is but a symptom. Reflex jaundice seems to be a

¹ Communicated to the Académie de Médecine.

tolerably benign affection, except in those cases where the antecedent lesion of the liver is of a nature, such as cirrhosis, to lead to a fatal result.

Reflex icterus does not apparently modify unfavorably the reparative processes in wounds. This form of jaundice belongs to the class of remote traumatic deuteropathies. It is, if one may judge from the scarcity of the documents relating to it, one of the most rare forms; its history cannot be completed except with the aid of new observations.

ART. 135.—*On the Treatment of Traumatic Erysipelas.*

By Dr. WILDE, of Plau.

(*Deutsches Archiv für klinische Medicin*, x. Band 1 u. 2 Heft. 1872;
Aerztliches Literaturblatt, No. 6 u. 7, 1872.)

We have now arrived so far that, on the foundation of subtle observations and investigations made by modern surgeons, erysipelas is regarded as a capillar-lymphangitis of the cutis, and its origin is attributed to infection. Some hold that a special fungus, the micrococcus, and others that small animal organisms, the monads, are the agents of this infection, and both parties believe that the disease is at first a purely local one, but at a later period becomes generalized. According to the current ideas the most diverse methods of treatment are constantly tried and proved; these do not succeed and are then soon forgotten.

Although the confidence in the beneficial action of the various plans recommended in the treatment of the erysipelas may after many fruitless trials have been much shaken, Dr. Wilde nevertheless thinks that the notion of opposing this morbid process by disinfecting agents is a plausible one. When the two premises are true, the conclusion must needs be so too; that is to say, if traumatic tetanus be produced by monads or vegetable organisms, and we have an agent that will destroy these, then by the application of this agent can we arrest the erysipelatous affection, provided that the incorporation of the medicine, both locally and generally, has taken place at a sufficient depth. Dr. Wilde has sought for a destroying medicinal agent which could be applied directly and subcutaneously. Volkmann had previously conceived the idea that the surgeon in the local treatment of erysipelas must use the hypodermic syringe. He says: "It would be well if an agent could be found capable of destroying or neutralizing the infectious substance *in loco*. But even if such an agent could be found, and one should propose to apply it to the tissues by hypodermic injection, still it would be found difficult to obtain a sufficient diffusion of this agent over the whole of the inflamed region."

Among the substances which can be used *in loco* there is carbolic acid; but this Dr. Wilde thinks is not a fit one, since even when much diluted it irritates the tissues and, when introduced under the skin, causes severe pains. On the other hand, the sulphocarbonate of soda possesses all the qualities which render a substance fitted for subcutaneous insertion. It can be readily dissolved in water, and when introduced under the skin in a solution of one part to twelve of water causes, as Dr. Wilde found by experiments on himself, extremely little pain. Whether the sulphur contained in this preparation influences to any extent this action Dr. Wilde will not venture to determine. The results of trials made with the sulphocarbonate surpassed the author's expectations and calculations, as "they were quite constant and striking." The beneficial action was usually manifested as early as the first day, and the evening temperature at once commenced to fall. On the second or, at the latest, on the third day, the margin of the erysipelatous patch completely disappears, the skin becomes pale, and defervescence is well established. On the third and, at the latest, on the fourth day, there is no other sign of the erysipelas than a slightly cedematous condition of the previously inflamed skin.

ART. 136.—*On Subcutaneous Injections of Morphia in Traumatic Erysipelas.*

By Professor ESTLANDER, of Helsingfors.

(*Schmidt's Jahrbücher*, No. 4, 1872.)

Morphia injections were used originally in Professor Estlander's clinique in association with one of the so-called abortive means, usually the application of tincture of iodine, with the view only of removing the heat, tension, and pain in the inflamed portions of skin, as they could be applied more conveniently and were more rapid and certain in their action than the usual local means, which, indeed, exert no influence on the course of the inflammatory process. The speedy relief of the pain which followed the subcutaneous injections of morphia was enough to assure for them a place among the methods of treating traumatic erysipelas; it was, moreover, rendered manifest that these injections exert another influence on the affection, since those cases in which, in addition to the iodine treatment, morphia was also thus used, went through a decidedly milder course than the other cases. This observed fact led Professor Estlander to treat a number of cases by subcutaneous injections of morphia, to the exclusion of all other kinds of local applications. By the results of this investigation Professor Estlander was convinced that morphia acts directly on the inflammatory process, reducing its intensity and limiting its extension.

If in a case of traumatic erysipelas where the boundary between the inflamed and healthy portions of skin is not distinct, and the erysipelatous process is spreading in the form of large red and gradually coalescing patches, morphia be injected near the affected region, it will generally be observed on the following day that the inflammation has made very little, if any, progress. In cases where the erysipelas has made slight progress after an injection, it will frequently be observed that the skin around the seat of puncture has not been attacked. In more severe cases, where the boundary between the affected and healthy portions of skin is sharply defined, one may find, after injecting morphia near this boundary, that the inflammation, which had previously made considerable progress, is either at once arrested, or, as usually happens, takes a less rapid course, which on repetition of the injections is gradually arrested. In the worst cases of erysipelas ambulans, whether occurring sporadically or in epidemics, subcutaneous injections of morphia are as little fitted as all other abortive means to stop the course of the disease.

In order to solve the question how much of this result depended on the character of the erysipelas and how much could be attributed to the morphia, Professor Estlander made several investigations, but could not form any decided judgment concerning the various cases in which comparative trials of treatment spoke much in favor of morphia injections. He has, however, been convinced by an experience of five years that subcutaneous injections of morphia are much more efficacious than most other means which are usually applied in cases of traumatic erysipelas.

It is difficult to find an explanation of the manner in which morphia thus acts. It may be probably assumed that an arrest of reflex action takes place, and that in consequence of this the impulse through which the inflammation advances and increases is thus removed. A case in which eczema rubrum near one eye, after having been treated without success by several means, was at last rapidly cured after enucleation of the phthisical eyeball on the opposite side, induced Professor Estlander to believe that the nerves in cases of this kind play a greater part than is usually attributed to them. Then there is the view that opium and morphia not only relieve the pain associated with inflammatory processes, but also limit the processes themselves; this view is old, and is based on the results of experience in cases of peritonitis, acute rheumatism, pneumonia, and several other diseases.

It may be conceived as possible, in rejecting any idea of interference on the part of the nervous system, that morphia acts locally in such a manner that

the injected foreign fluid gives rise in the subcutaneous cellular tissue to an impairment of nutrition which hinders the further extension of the erysipelas, and to a process analogous to what Fenger sought to obtain in these cases by cauterization with nitrate of silver. This explanation is supported by the fact already mentioned, that the parts nearest to the point of injection remain unaffected by the still extending erysipelas. That morphia injections act more successfully than the external application of lunar caustic is due to the fact that the former pass more deeply than the latter into the subcutaneous cellular tissue, which is the chief seat of the morbid changes.

Professor Estlander uses for injection a solution of 0.12 gramme of hydrochlorate or acetate of morphia in 3.75 grammes of distilled water, and, as a rule, injects about a quarter or a half of the contents of a Luer's syringe, and thus either 0.0075 or 0.015 gramme of morphia. When it was observed that the erysipelatous blush did not appear at or near the seat of injection, the syringe was applied to several points of healthy skin, at distances from the erysipelatous inflammatory process varying from one to two inches. Usually the injection is given only once a day, but sometimes, at the particular request of the patient, both in the morning and evening.

An especial advantage of these subcutaneous injections is this, that they can be associated with other means. Professor Estlander uses in preference tiucture of iodine, with which he paints the affected part once daily; he then applies wadding and a bandage. In his earlier cases of erysipelas of the extremities he elevated the affected limb in order to diminish the flow of blood; but it was soon found that elevation, which is so useful in the treatment of phlegmonous processes in subcutaneous cellular tissue, was of very little service in cases of simple erysipelatous inflammation. Professor Estlander relies much upon the general treatment of erysipelas, especially upon the administration of an emetic, which he prescribes at the very commencement of an erysipelatous attack.

ART. 137.—On Malignant Diseases of Bones.

By THOMAS M. MARKOE, M.D., Professor of Surgery in the College of Physicians and Surgeons; Surgeon to the New York Hospital; etc.

(*Treatise on Diseases of Bones*, 8vo. pp. 416. New York, 1872.)

Dr. Markoe's chapter on malignant disease of bones concludes with a statement of his opinions on the propriety of the operation of removal of these diseases, which applies to all malignant disease. He says:—

"Acting upon the principles we have now considered, I would refuse to operate:—

"1. In any case in which there was not a reasonable certainty that the whole of the diseased tissue could be removed.

"2. In any case where there was clear evidence that secondary cancer had taken place. This requires some modification. The mere fact of internal cancer having begun to show itself might not in all cases forbid operation. If the local disease presented unusually distressing or threatening appearances, we might sometimes be warranted in relieving the patient by operation of his immediate sufferings and dangers, though we might be sure that no prolongation of life could be gained by the operation. As a general rule, however, no operation should be performed where secondary disease has already developed itself.

"3. In any case in which cancerous cachexia was already well marked. It is to be presumed, in this case, that the general system is already poisoned by the disease, and that the powers of reparation are materially reduced. If the removal of the local cause could be relied on as a removal of the whole disorder, then we might hope, as in other cases in surgery, that the constitutional disturbance would abate on the removal of the source of irritation with which all parts suffer; but it is the effect, and at the same time a sign, of a change in the actions of the whole economy which is as much a part of the disease as the

ulcerated tumor itself, and which will not be arrested in its progress by the most successful extirpation of the primary disease.

"4. In any case where the operation required was so formidable in its extent or character as to add materially to the dangers of the patient's condition, we would not hesitate to amputate a forearm where we might refuse to exarticulate at the hip-joint; and generally a trifling and safe operation would be more readily resorted to by the surgeon than one of great magnitude and danger. Our hopes of benefit do not warrant the running of greatly increased risk of life.

"5. Where the patient was very old and the cancer chronic in its course, the slow progress of disease is likely to continue if it is left alone; the operation would be very likely to hasten a fatal termination in advanced age.

"6. Where the patient was not a subject for any operation by reason of bad habits, excessive fat, great feebleness, or any organic disease impairing nutrition or reparative power. I think, too, that unconquerable fear of an operation, or unreasonable dread of its consequences, should be a contra-indication not to be overlooked.

"On the other hand, I would advise an operation—

"1. In all cases where the disease could be easily and entirely removed, and particularly if, as in the case of amputating a cancerous bone, I could be sure of removing not only the disease, but the whole organ affected by it. This, I think, is a very important practical point, and I believe that the cases in which any other operation than amputation should be performed on one of the long bones affected with cancer must be very rare indeed.

"2. Where there was no suspicion of any secondary disease in any internal organ, and no extensive affection of the lymphatic glands. The mere enlargement of a few of these glands by local infection is no contra-indication of an operation, statistics not showing that this condition adds materially to the unfavorable prognosis, particularly if they admit of complete removal.

"3. Where the true cancerous cachexia was not yet developed in any marked degree. It is not always possible to discriminate between the constitutional effects of cancer as such and those depending on the ordinary causes of failing health and strength, such as pain, hemorrhage, excessive discharge, and the like. In many cases, however, it can be arrived at; and, where there seems to be no failing of the powers of life but what can be accounted for by the effects of the local actions, we have a right to recommend an operation, in the hope that for this form of constitutional impairment the removal of the local cause will prove a remedy.

"4. If the operation required for the removal of the disease be not one seriously imperilling life. In cancer of the bones this question is brought down to the comparison of a very few operations; mainly amputations and the excision of the upper and lower jaws. All these are serious operations, and should not be lightly determined upon; but for most of them the precise grade of danger is almost mathematically proved by reliable statistics; and, inasmuch as in these operations we are cutting through perfectly sound parts, we may almost say that we can announce the precise amount of risk we are recommending our patient to assume in undergoing any given amputation. Of course this risk will be modified by the condition of the patient in other respects than the cancer for which the operation is to be performed, but this condition presents nothing which we are not accustomed to deal with in the ordinary problems of surgery, and is to be appreciated in accordance with its well-known laws.

"5. If the cancer be of slow growth and the patient not old, we have very good reason for believing that the recurrence will be long delayed, and the period of exemption from disease will be a long, perhaps a very long one. It is from this class of cases that most of the so-called cures are derived, and though I cannot assert that statistics prove the fact, yet I think their results render it highly probable that the slower a cancerous growth is in passing through its earlier stages the longer is it delayed after operation, and the slower its progress when it does return. Very acute cancers are generally unfavorable cases for operation.

"6. The good general health of the patient is a strong point in favor of an

operation deemed proper for other reasons, as well as an earnest of its success. I cannot help feeling, too, that in all cases a strong desire for operation and a strong conviction that it will be successful on the part of the patient may be accepted by the surgeon, not only as a good omen, but, as far as it goes, a positive indication.

"Lastly, though it may not flatter our scientific vanity, yet it is but honest to confess that the uncertainty of our diagnosis may give some encouragement to operation; as in removing what we believe to be a cancer we may, perhaps, be extirpating a perfectly benign growth, and, instead of giving our patient a brief respite from death, our mistake may secure for him an uncontaminated and healthy life."

ART. 138.—*On the Normal and Pathological Growth of Bone.*

By Dr. OLLIER.

(*Gazette Hebdomadaire*, No. 37, 1872.)

The following was communicated to the French Association for the Advancement of Science at a meeting held in September, 1872:—

"The question of the increase in the length of bones seemed to have been completely solved, and the theory of their peripheral increase perfectly demonstrated by experimentation. Recently, however, the labors of German savants in applying for the support of the old theory not only reasoning but experiment, have unsettled our former views as to these matters. I have considered it advantageous to take up again the studies which have induced me to defend the theory opposed by Wolff, Culmann, and Meyer. I have repeated the experiments which led me to reject the theory of the interstitial growth, and, in order to avoid causes of error, I operated upon very young animals (dogs, cats, fowls, pigeons). In the first series of experiments made on dogs and cats I acted in the following manner: Two pegs were inserted at a certain very rigorously measured distance from each other on the diaphysis of a long bone; some time afterwards, when the animal had attained adult age, it was killed and the distance between the pegs again measured. Whatever the lapse of time between the operation and the necropsy I made out from more than thirty experiments that the pegs were not much further from each other, and that the interval between them remained the same. This series of experiments in itself suffices to overthrow the German theory of the interstitial growth of bone. In some very young animals I have observed an increase in the distance between the two pegs, but this increase never exceeded the one-fortieth of the total length of the bone. It is necessary, then, to return to the theory of peripheral growth.

"Duhamel has expressed this theory in a very true if not very rigorous phrase: 'the hard bone does not spread,' he says, 'but it is the young and soft bone that spreads.'

"Soft tissues, indeed, increase in length by interstitial growth, but experiments show that bones comport themselves like other tissues so long as they possess analogous properties.

"The supporters of the theory of Havers hold that the conjunctive cartilage has nothing to do with the growth of the bone. If this cartilage be removed, what is the result? Immediate and absolute arrest of the growth of the bone. The importance of this cartilage is proved by the fact that one may remove from the diaphysis of the bone a portion several millimetres in length, and yet the bone will not cease to grow.

"I oppose the theory of the interstitial growth of bone, although I do not absolutely deny the fact. I as well as others have observed elongation of the bones of certain birds upon whom experiments had been made, and also, as has been stated above, in mammals. In the latter instances, however, there had been osteitis; the bones had become soft, and had acquired the property of soft tissues, formulated by Duhamel. In these cases I did not obtain an elongation by more than four or five millimetres in bones measuring twelve or fifteen cen-

timetres. This elongation, then, may be justly regarded as quite exceptional, and even abnormal, in the general question of the growth of bones.

"This last fact leads me to speak to you concerning the pathological growth of bones. In the year 1867 I deduced from experiments and clinical observations the following propositions: If the diaphysis of a long bone be irritated by introducing a foreign body into the medullary substance, by scraping the bone, or by tearing away a portion of periosteum, the bone will become elongated; if the conjunctive cartilage be irritated there will be arrest of development. It is not necessary to imagine that the latter result is obtained in consequence of the more rapid ossification of the diaphysis; whether the soldering according to the mode of irritation be accelerated or retarded, the disturbance in the process of ossification remains the same, the bone ceases to grow.

"These experimental facts explain the pathological facts, which in their turn corroborate the former. In certain cases hypertrophy of the inflamed bone is observed. I have seen a tibia twelve centimetres longer than its fellow. In other instances there is, on the contrary, arrest of development. The explanation of this is as follows: In the inflammation, if the osteitis—and this term must be taken in its most general sense—if the osteitis, I say, has been central, that is to say if it has had its seat in the diaphysis, however closely it might have approached to the epiphyseal cartilage, it will result in hypertrophy. Irritation of the parts near to the cartilage is even favorable to this hypertrophy. But, if the inflammation has involved the conjunctive cartilage, then there is arrest of development, just as in cases where the cartilage has been removed with a cutting instrument.

"This question of the pathological growth of bone is very interesting with regard to the consequences of mutilation of the skeleton. But study of the normal growth reveals to us facts that are not less important from a clinical point of view. The two conjunctive cartilages cannot take an equal part in the growth of long bones. Place a peg in the middle of a long bone, the humerus, for instance, of a young animal; kill this animal when it has attained adult age, and you will find the peg near the lower extremity of the humerus.

"M. Broca has found out this fact whilst engaged in the study of rickets. Experience has since definitely established it, and has, moreover, demonstrated that the law does not apply equally to all bones. I have made out that the growth of the humerus takes place especially at the upper extremity; that of the ulna and radius, on the other hand, at the lower extremity. In the bones of the lower extremity the mode of growth is the opposite of that of similar bones of the upper extremity. Bérard remarked that the apophyses of the elbow were the first to unite in the upper limb; but one has not to deal solely with the process of union. There is a process of general elongation of the bones of the upper limb in which the epiphyses concur, but to a slight degree, as may be observed in the early periods of life.

"From these facts it results that the constituent portions of the elbow do not take, so to speak, any part in the growth of the upper limb, whilst those of the knee are the principal elements in the development of the lower limb.

"This difference in the parts taken by the articulations of the elbow and knee explains the difference in the results obtained after their resection. In 1861 I mentioned, in a communication to the Academy of Medicine, that after resections of the elbow performed on infants the upper limb continues to grow, and that the difference in length between the two limbs closely corresponds to the amount of bone removed during the operation. After resection of the knee, on the other hand, the limb hardly grows any more, and there is a great difference when the sound limb continues to grow.

"The results of excision of the shoulder, when the portion of bone removed bears the superior cartilage of the humerus, may be likened to those attending excision of the knee. I should add, however, that after resection, and even after inflammatory lesions, one may observe an increase in length of the limb operated upon—a kind of compensatory hypertrophy which may add one-tenth or one-twelfth to the length of the limb which is its seat. I have observed this fact, which has not been previously described, in animals, and even in man; for example, I have seen it in the humerus after excision of the wrist.

"This increase in length may be observed after all mutilations, amputations, resections, or inflammatory lesions. It need not be supposed that it is accompanied by veritable hypertrophy. I have given to it the name of *atrophic elongation*. I explain the fact in the following way: Whenever the pressure of the bones on each other is diminished, modifications occur in the nutrition of these bones, which become straighter and longer. When a limb has been paralyzed, this modification has been brought about. I have observed elongation of the tibia and fibula in the cat after division of the sciatic nerve. But the elongation thus produced is not maintained; at the end of seven or eight days atrophy occurs from functional inertia. I have not yet been able to verify this occurrence of *paralytic elongation* in man."

ART. 139.—*Modern Treatment of the Advanced Stages of Constitutional Syphilis.*

By WILLIAM ACTON, M.R.C.S.

(*British Medical Journal*, August 17.)

Mr. Acton read the following paper before the Surgical Section of the British Medical Association, mainly with the view of eliciting from M. Ricord, who was present, a statement of his present opinions on the important question of the treatment of syphilis.

Mr. Acton remarked: "On what constitutes the virus of syphilis I fear we know little more at present than we did thirty years ago. Experience, however, has corroborated M. Ricord's observations, that relapses of constitutional syphilis are not uncommon even after long periods of apparently perfect convalescence. These accessions of disease we may attribute sometimes to neglect of treatment; but we must admit, likewise, peculiarities of constitution and temperament as bearing on the tendency, which, in spite of the best regulated treatment, will be followed by relapses. In other instances it is noticed that any general disease which will debilitate the system may be followed by an attack of constitutional syphilis, which without such debilitating cause would never have occurred. The old theories about the influence of ferments seem to be borne out by some of these exceptional cases.

"Practitioners, however, will agree with me that in the present day, in some of these rebellious cases, patients and medical men both lose confidence in remedies, and there are those among us who, after seeing such relapses, doubt if it be the effects of syphilis or mercury which we have to treat in these advanced cases.

"The treatment should consist in ameliorating the symptoms, commencing with those that are most urgent. We should attempt to improve the broken-down constitution too often found in these instances; if mercury have been given, we must leave it off till the constitution has somewhat recovered. Our object should be to place the patient in the best possible condition as regards air, diet, and freedom from anxiety, and, if possible, to give him confidence that the disease is curable, for the moral and mental depression to which the patients are reduced is often very painful to witness.

"This being done, I commence with tonics and iodide of iron. If there be ulcers, I treat them with the ointment of nitric oxide of mercury. If the throat and voice be affected, topical applications must be used. If osseous or periosteal tumors exist, iodine or blisters should be applied to reduce the size of the swellings and prevent disfigurement or pressure on the brain or spinal cord. This local and general treatment will act almost as a charm in relieving sleeplessness and pains in the bones and joints.

"In the commencement, notwithstanding that iodine may have been taken (according to the statement of the patient) without previous benefit, I commence the syrup of iodide of iron in bitter effusion, taken at meal time in moderate doses. As long as the remedy tells on the constitution I adhere to moderate doses; but as soon as convalescence tarries or progress is not made I increase the dose even to two drachms three times a day. When the system

becomes tolerant of these doses, I change the syrup for the iodide of potassium in solution, beginning with ten or fifteen grain doses, taken at meals and dissolved in large quantities of fluid.

"The subsequent treatment should be guided not by the number of grains given, but by the effect which the remedy has on the complaint. As soon as the disease ceases to retrograde I augment the dose with the best possible effect. When the preparations of iodine and potash cease to benefit the patient, I add bromide of potassium, not in combination with the iodide, but prescribe it at a different time of the day. It frequently happens that we succeed in curing the disease with these salts, but if the complaint be very persistent, if relapses occur after short intervals, I no longer hesitate to give mercury, and my hearers may be glad to learn what are the indications we follow in the administration of the remedy.

"*Treatment with Mercury.*—As a general rule it must be admitted that mercury is not required in the treatment of the advanced stages of constitutional syphilis. In fact, we attempt to cure our patients without resorting to the mineral. On the other hand, there are many instances in which the recovery hangs fire; the patient ceases to improve even under large doses of the iodine. The disease becomes stationary. Yet such are the objections of some practitioners to a course of mercury, that, in spite of the recrudescence of severe symptoms, the anti-mercurialist will not give mercury in any form. This is an error of the day. The rule which experience teaches us is that if a relapse occur, or if the progress of recovery be arrested, after the various preparations of iodine have failed, some of the mercurial preparations must be had recourse to, judiciously given and closely watched. In some cases friction with mercurial ointment will be most beneficial; and I must admit that in England I find the old plan of rubbing in mercury answer better than almost any other that I am acquainted with. There are those who employ fumigations. M. Ricord is very partial to a prescription combining biniodide of mercury, iodide of potassium, and sarsaparilla. In these stages the writers of the last century had a high opinion of corrosive sublimate; but this irritant poison has fallen into disuse in modern practice. Those of my hearers who are acquainted with the writings of the older authors on syphilis need not be reminded of the almost miraculous discoveries detailed after giving mercury, long before iodine was known; and it is stated that the patient never had a relapse. These old writers, however, omitted to state how often the remedy not only failed, but brought the patient to an early and untimely grave. I can bring to my recollection many instances which, I have every reason to believe, died from the administration of mercury given on the old plan, and which would now be rescued by the mercury being preceded by the different preparations of iodine.

"If mercury be found beneficial, as I am sure it will be if judiciously given and carefully watched, and the symptoms of syphilis subside, the preparation should be persisted in till every vestige of the disease disappears. The dose required is sometimes surprisingly small. I have known obstinate symptoms, which have withstood iodine, disappear in six weeks. In a case now under my care, of syphilitic nodules of the testis, a six weeks' course of frictions has been required to enable the testis to recover its former elastic feel, and its functions are now performed satisfactorily. It is singular to notice in these cases how the general health improves under mercury. The patient loses the habitual earthy expression, becomes florid, and gains flesh; his spirits improve as the local affection declines and he ceases to be liable to relapses."

The reading of the above paper drew from M. Ricord the following speech:—

"There is one question which comes before the medical man very frequently: Can syphilis be cured radically? That is the question which we will consider. There is an immense quantity of venereal disease cured—clap, swelling of the glands, soft chancres, warts—all these 'accidents,' not belonging to syphilis, and not associated with secondary symptoms, being radically cured. Since these have been distinguished from real syphilis there have been great differences in the treatment of them, and they have been radically cured. Doubts have been raised whether real syphilis can be radically cured; and those doubts are not new. Mercurialis thought that it was liable, even after the lapse of

years, to break out again; and the doubts remain in the minds of many whether it can be cured radically, or whether it can be cured only temporarily. Well, that doubt may remain until I establish before you that the law regarding syphilis is the same as the law regarding the smallpox, measles, and such like. You can have at the one time only one smallpox, only one cowpox; and as, just so long as the cowpox influences the system, you cannot have another smallpox, or another cowpox, so in syphilis; for, as long as the patient is suffering under the syphilitic diathesis arising from an indurated chancre, he cannot have another indurated chancre. The application of this law is that, while a man is suffering under the effects of secondary symptoms he cannot have a chancre of an indurated character; so that if you want to know whether the system of a man is altogether free from syphilis, you can do so by inoculating him with an indurated chancre; if it take, he was free; if not, he was insusceptible. That is a great point to be reached in the science of medicine. I say, and say distinctly, that syphilis can be radically cured.

"Now as to the case of syphilis in the first stage—the primary sore. You have first to find if this be really the hardened chancre, and it comes with the swelling of the glands; but with it the glands never suppurate. I at once institute the mercurial treatment. Now, there is one point here upon which there is a difference of opinion, for some think that you cannot prevent the secondary symptoms; but I say that if the treatment be well done and soon done—and this is most important—you can prevent the first bursting out of the secondary symptoms. Why it is not prevented is that the treatment is applied too late in the first instance, and the secondaries often come before the treatment of the primary is commenced. But if you make the treatment of the primary early and effective, the secondary will not appear; I can give you warrant for that. The best treatment for the secondary symptoms is the mercurial, and it must be continued and continuous. In Germany, and in other places as well, the treatment of the secondary symptoms is not continued long enough. You should choose a treatment which does no harm to the constitution and continue it for five or six months, and you will have very few cases of relapse; and, after the mercurial treatment is finished, go on for another six months with iodine. When a person comes to me I tell him that he will have to continue under treatment for twelve months. If he will he will; but if not, then I say at once 'good-bye.' But then, you know, there are complications. The treatment I have given you is for syphilis arising in a person who is otherwise healthy, and there is then but one enemy to fight against. But in other cases you may have, in addition, scrofula, or an otherwise bad constitution. Well, then the case is not the same; for many of these constitutional disturbances are interfered with by the syphilitic treatment. In many of these cases the syphilis is the second thing to look at, and you must begin with the constitutional disease first; you must attack the strongest enemy first, and he sometimes waits until you come to him before he opens his attack. Then you must come on gradually with your syphilitic treatment; and that which I prefer in complicated cases is iodide of mercury, which causes little diarrhoea. One capital treatment is that of rubbing in—it is easy and effective. But there are cases in which the rubbing cannot be employed. In the next stage I employ iodide of potassium. I use large doses of this, up to 60, 70, 80, and 100 grains a day, and even more. I have made experiments with this; and I have found that, half an hour after the dose has been given, it has passed through the urethra; and it is in reality a sort of broom to the blood. The supply must be kept up. In secondaries a treatment partly of this iodide and of mercury has its advantages. I have had the potassium stop doing good, and I have gone back to the mercury with good results. This is what Mr. Acton has said, and I quite agree with him. When syphilis has lasted a long time and has had great effect upon the constitution, it somehow disappears, and leaves the patient suffering from a complication of diseases which may have been existing before. Well, then, you must stop all syphilitic treatment, and repair the deterioration of the blood by iron and bark. Mr. Acton spoke about the use of bromide of potassium; and I agree with him in its use, for it is a splendid remedy for a complication of syphilis in some cases—in

syphilitic diseases of the brain and nervous system; but you cannot depend upon it as an antisymphilitic remedy.

"Now I would impress you that you can tell your patients that this terrible disease can be radically cured if they have the courage sufficient to go through the treatment, and their physician have the courage to go through it with them."

ART. 140.—*Report on the Treatment of Ulcers in the Hospitals of Great Britain.*

(*British Medical Journal*, June 15, 22, and July 13.)

It is proverbial that the treatment of most ulcers of the leg in the out-patient room is unsatisfactory and disheartening. It is not unlikely that the frequency, obstinacy, and uninteresting character of ulcers of the leg, together with the belief hauded down as to their incurability, may sometimes lead to carelessness, if not neglect, on the part of the surgeon, in the treatment of these cases. With the view of ascertaining whether this belief is really well founded and entertained amongst metropolitan surgeons, and of obtaining a few details of the means used in the treatment of ulcers, we have collected a few notes on the subject which will be used with interest. We especially sought for experience of surgeons in the employment of skin-grafting; and the remarks on this method of treatment are particularly instructive, and promise excellent and speedy results in many instances.

ST. BARTHOLOMEW'S HOSPITAL.

Mr. Savory has had several cases of skin-grafting on ulcers of the legs and other parts, and has been led to form a very favorable opinion of the plan. In almost every instance the majority at least of the fragments transplanted, and in some instances all of them, amounting perhaps to six or eight, have lived and grown. In the earlier cases Mr. Savory scratched the surface of the ulcer before inserting the morsel of skin; but in the latter ones he has simply placed the tiny bit, snipped off as superficially as possible, usually from an amputated limb, upon the unbroken surface of a healthy ulcer. He usually fixes the fragments with strapping, and takes care not to disturb them, if practicable, for two or three days or more. In one instance, that of a boy ten years of age, the whole of the integument of the leg, from the knee to the ankle, had been destroyed by a burn. The entire surface was covered by healthy granulation, but this extensive ulceration showed little or no disposition to contract. Skin was grafted twice; in the first instance six fragments, and in the second four, were placed on the surface. Every morsel lived and grew, and by this means the whole surface at length closed in and the limb was saved.

THE MIDDLESEX HOSPITAL.

Mr. George Lawson says that the treatment of ulcers of the leg should be both constitutional and local. The constitutional treatment will prove a powerful aid in the cure of ulcers, for although the disease is apparently local, yet it is very dependent on the health of the patient. A large number of the ulcers which are met with in the daily hospital practice are due solely to the causes already mentioned—viz., uncleanness, self-neglect, want of rest, and a constitution impaired from irregular and drunken habits. In all these cases, if the patient be made to maintain the leg in the horizontal position and the ulcer be kept clean and covered with strips of lint wetted with water or with some slightly stimulating lotion, and a good diet with a moderate allowance of stimulants be prescribed, the wound will rapidly heal. The patient's health under the improved diet and rest will speedily begin to mend, and a corresponding improvement will at the same time appear in the ulcer. When, however, the ulcers are traceable to some specific taint, such as syphilis, a mere local application is useless without the aid of some of the antisymphilitic remedies. Iodide of potassium, or small doses of the liquor of bichloride of mercury, with decoction of bark, may then be given, or the two may be often combined with

advantage. Mercury, given in the form of blue pill or calomel, so as to affect the gums, is positively injurious. For the effectual treatment of all ulcers of the leg absolute rest of the limb is the first element. Bandaging and strapping the leg may do some good by supporting the parts, and thus affording a certain amount of rest by restraining the freedom of motion; but it is comparatively ineffectual when contrasted with the good which accrues from keeping the patient in bed with the limb constantly in the horizontal position. The medicines which appear to be the most useful in the large and painful ulcers of the leg which are met with in hospital practice are the mineral acids with bark and opium. The effect of opium on ulcerations when rightly administered is very striking. It allays pain, procures sleep, and often, in an incredibly short space of time, completely changes the characters of the wound. It is the phagedænic and the senile ulcers which appear to be most under its control; in the former it arrests its progress and restores healthy action, whilst in the latter it relieves pain and induces healthy granulations. Other forms of ulceration are also much benefited by opium, although in the two mentioned its effects are most striking.

In the large chronic ulcers, with a thickened brawny condition of the leg, skin-grafting is a most valuable adjunct. Before, however, transplanting portions of the skin the patient should be taken into the hospital and kept in bed, and similar remedies applied until the wound assumes a healthy granulating surface. Small portions of the integument, taken from the arm or elsewhere, may soon be implanted on the ulcer, and with an almost certainty of success. As soon as two or three pieces of the new skin have established their vitality others may be added, until at last the whole chasm is completely bridged over with new skin. The advantages which this mode of treatment possesses are that the tendency for a wound thus closed to break open is diminished; and, if the ulcer should again appear, the grafts usually remain entire, or a very few of them perish, and the wound will again close up more rapidly than if no skin-grafting had been employed.

Mr. Andrew Clark says that, in considering the treatment of chronic ulcers of the legs, we must remember that the majority of out-patients being half-starved, hard-working people, the two essentials of treatment, rest and good food, must be put out of the question, patients always saying that they rest as much as ever they can. The cause of the ulcer is frequently a kick, and the veins are often not enlarged. The ulcers are often of long standing when first seen in the out-patient room, and present a greenish unhealthy aspect and smell very badly. Under carbolic acid lotion, one part of the acid to sixty of water, with ammonia and bark internally, they generally assume a healthy appearance. When they appear to heal, a lotion of nitrate of silver, two grains to the ounce, applied on a piece of lint of the size of the sore, much assists the healing. As a rule, however, when the ulcer arrives at this stage the patient leaves off attending, as he appears to suffer but little pain, and in a month or six weeks he returns with the ulcer as bad as ever.

Stimulating ointments, as resinous ointment, always seem to produce pain; and other ointments, as zinc, appear to interfere with keeping the sore clean. If there be much inflammation of the skin around, lead lotion may be substituted for the carbolic as soon as the smell is removed.

KING'S COLLEGE HOSPITAL.

Mr. John Wood has tried skin-grafting in large chronic ulcers of the leg extensively, and with the best results as regards rapidity of healing. The way in which he has carried it out is to take a surface of skin from a thick part on the outside of the leg, about the size of a threepenny-piece.

A lancet is the best instrument to do this with, care being taken to prevent the skin as much as possible from curling up, and to lay the deep surface flat upon the granulations. He makes an incision into the granulations, but keeps them as dry as possible, taking care that the part upon which the graft is applied is as florid and healthy as possible. The first grafts he places across the middle of the sore, so as to promote the formation of an isthmus of new skin

which shall divide the sore into two parts. He then subdivides in like manner each of these halves, and thus the advantage of a cicatrization quite around the circumference of continually diminishing circles is obtained. The practice of incising the granulation to graft in the skin Mr. Wood believes to be a mistaken one, inasmuch as the bleeding which ensues prevents instant coaptation and adhesion. The same remark applies to the presence of profuse suppuration in the sore, which is, besides, an evidence of debility in the granulations. By the above means, Mr. Wood supposes, the time for healing a chronic ulcer is shortened by one-half. He has thought, however, in one or two cases, that the resultant cicatrice was somewhat less durable and ulcerated again more quickly than usual, but on this he has not yet formed a settled opinion.

ST. THOMAS'S HOSPITAL.

Mr. Francis Mason believes that in out-patient hospital practice the "simple" "healthy," or "purulent" ulcer in its typical form is seldom met with, and thinks that the reason is obvious when its chief characteristics are taken into consideration. Thus, it is not painfully sensitive, it advances towards a cure often rapidly, and generally its progress is steady and perceptible; hence, as soon as the healing process has fairly set in, and the patient suffers little or no discomfort, he discontinues his attendance.

By far the commonest varieties of ulcer of the leg are: 1. Those often associated with eczema of the part, hence designated "eczematous ulcers." They become sometimes inordinately painful, the skin being especially implicated, and might be not inaptly termed according to their physical characters, "inflamed ulcers." 2. Those, that, having progressed up to a certain point, remain stationary, and are "œdematous" or "weak." They are flabby in appearance, and not especially tender. 3. The "serpiginous ulcers" frequently found on the dorsum of the foot, and in the neighborhood of the knee-joint. They commence as small elevated portions of thickened skin of a dusky red hue, which break down, leaving an ulcerated surface, the edges of which are more or less irregular, and are frequently undermined. In some instances, the ulcerated skin presents a honeycomb appearance, a patch as large as the palm of an adult hand, being fissured or starred in all directions. On separating these fissures, the ulcerated surface is brought into view. The ordinary "callous," "indolent," or "atonic" ulcers, with their peculiar hard raised edges, are, in Mr. Mason's experience, comparatively rarely seen; the explanation being, as he thinks, that, as they are relatively painless, the sufferers pay little attention to their condition, and not unfrequently console themselves in the reflection that an open wound acts as a safety-valve and obviates a greater evil.

With regard to the treatment of any ulcer which is painful or inflamed, the first point of importance is to clear the intestinal canal with a saline purgative containing a little colchicum. After the bowels have been thoroughly relieved, opium, morphia, or henbane, in repeated but small doses, may be given to allay the pain. Soothing applications, opiate lotions, a light poultice, or even the ordinary water-dressing, may be used to the part, but bandages have, as a rule, a tendency to aggravate the inflammation in very painful ulcers. A simple diet without the use of malt liquors is advisable.

In this "œdematous or weak ulcer" a bandage often does great good, and the wound may be touched advantageously with nitrate of silver, always commencing at the centre and finishing at the circumference, thus putting the caustic on the most painful part last. Should a patient have a particular objection to the application of the caustic, a piece of dry lint placed on the part will probably have a sufficiently stimulating effect. Astringent lotion of sulphate of zinc, or the zinc ointment, may afterwards be employed; and a liberal but nutritious diet, with a spare supply of malt liquor, recommended.

In the "serpiginous ulcer" the nitrate of silver may be freely applied, especially under the overhanging edges. Small pieces of lint of suitable size, either alone or dipped in the lotio hydrargyri nigra (*Ph. B.*), with subsequently astringent lotions, may be packed carefully into the wounds. In such cases much benefit is derived from the administration of iodide of potassium in fife to

ten-grain doses three times a day, and giving five grains of blue pill every other night. In these ulcers a non-stimulating but nutritious diet is highly necessary, and cod-liver oil may be taken with or without preparations of iron.

Whilst strapping is of comparatively little value in the foregoing varieties, it is almost indispensable in the "callous" or "atonic" ulcer. Mr. Mason has, from time to time, tried in this form of ulcer carbonate of iron in powder, chlorate of potash, and other supposed specifics, without benefit; but he has much confidence in the compound tincture of benzoin (the old-fashioned friars' balsam), which has a marked effect in promoting a healthy action on the surface.

With respect to skin-grafting in cases of ulcers, Mr. Mason's experience may thus be summed up. He has frequently tried it in cases of ulcers of the leg in out patients, and it has invariably failed. In order to be effectual the bed of granulations must be nearly, if not quite, in the condition of a typical healing ulcer, although it must be admitted that, if the graft be placed on exuberant, flabby, œdematous granulations, it will in most cases adhere. The portion transplanted has, in Mr. Mason's practice, generally been about as large as a millet-seed; but it has varied from a mere scale, obtained by scraping the cuticle, to a piece of skin of the size of a shilling; indeed, in one case a piece nearly as large as a florin was successfully grafted.

Whilst the operation of skin-grafting doubtless tends to increase the rapidity of the healing process, yet it offers no certain immunity from the recurrence of the ulceration when the patient resumes his avocations. Mr. Mason has seen several cases in which the ulcer has repeatedly broken open, leaving the engrafted portions of skin as permanent little islands, which have again and again assisted materially in repairing the wound. The inference to be drawn from such cases is that the more extensive the skin-grafting, the greater is the chance of a complete and lasting cure.

GUY'S HOSPITAL.

Mr. Thomas Bryant has very extensively carried out the treatment of ulcers by skin-grafting, and believes that many cases are now rendered curable that were not so previously, that the cure of others is facilitated, and that interest is given to a class of cases which previously offered little clinical instruction. By the process of grafting large surfaces speedily cicatrize, which, under former circumstances, would have required many months, and that, too, without the contractions and subsequent deformities which, under other conditions, were too well known to follow in such cases. The practice seems applicable wherever a large granulating surface exists, and the only essential point to observe is that the surface of the sore should be healthy; this clinical fact including another, that the patient's health is good, for there is no better barometer of health than a sore, its surface assuming a healthy or an unhealthy appearance with every alteration in the general condition of the body. Mr. Bryant has attempted, by way of experiment, to graft skin upon sores which were not quite healthy, and has sometimes succeeded. In an indolent sore, in which a small patch of healthy granulations has sprung up, he has succeeded in securing, by transplanting, a new centre of "cicatrization," that proved of great value in aiding the healing process, but in a large number he has failed in securing such an end. It may, therefore, he thinks, be accepted as a truth that a healthy granulating surface is an important requisite for success. Mr. Bryant uses a pair of scissors after those recommended by Dr. Macleod. They take away a portion of skin that will cut into three or four pieces, and the section includes only the upper layer of the true skin with rete mucosum. He generally takes the skin from the fore part of the arm or the inside of the thorax. The pieces of skin should be placed upon the granulations, about half an inch or three-quarters of an inch from the margin of the sore, and about one inch apart, and gently pressed in. There is no necessity to wound the granulating surface. They should be covered with a piece of oiled gutta-percha skin, and the whole supported with cotton-wool; a bandage being subsequently applied, so as to press moderately upon the part and keep the dressing in position. On the third day, but not before, the dressings may be removed, the greatest care being

needed; a fresh piece of oiled gutta-percha skin being subsequently applied. The appearances of the engrafted pieces on the removal of the first dressing vary considerably; at times they will seem probably to have taken root and to be alive; at others to have disappeared altogether; whilst in a third class the surface of the cuticle will be seen floating, as a thin film, upon the secretion of the sore, the basement membrane of the cuticle—the essential part—being left. Under all these circumstances, however, the surface of the sore is to be cleansed with the greatest care, a stream of tepid water, either squeezed from a sponge or injected from a syringe over the part, being the best means to employ. The surface is on no account to be wiped, for the grafted portions of skin are easily uprooted, whilst those that appear to have died or that have disappeared often reappear at a later period as “cutifying centres.” As soon as the new centres are established in large sores other pieces should be engrafted, at about the same distance from the new pieces as those originally inserted from the margin of the sore; and in this way the whole granulating surface may be speedily covered with new skin and a rapid recovery take place. There seems no objection to mincing the portion of integument which is to be employed into minute fragments—that is, into pieces of the size of millet-seeds; the thumb-nail of the surgeon being the best table for the purpose. Recently the practice of applying “skin-dust,” or the products obtained by scraping the skin, has found favor and met with some success. In the few cases in which Mr. Bryant has tried it the ulcers healed, but he has no evidence to show that any new cutifying centres were established by the proceeding. In the hands of Mr. Poland it has, however, been of value. Mr. Bryant doubts whether it is yet proved that the newly engrafted skin possesses the same power of resisting disintegrating changes as the old skin. Some observations which he has made have led him to suspect that it is somewhat prone to break down and ulcerate on the patient walking after the sore has completely healed, particularly when the subject is past middle age.

WESTMINSTER HOSPITAL.

Mr. Barnard Holt's treatment for ulcers of the leg consists in an endeavor, by proper position, attention to the general health, and suitable dressings, to procure a moderately healthy granulating surface, taking care to remove with the knife all hypertrophied cuticle in the margin of the ulcer. Having done this, provided the ulcer is not very extensive, he invariably hermetically seals the wound by the application of oiled silk, collodion, and strapping in the following manner. A square piece of soap strapping two inches larger than the outer circumference of the ulcer, having a hole made of the exact shape of the ulcer, is applied upon the leg. Upon the strapping good collodion is applied with a brush, and over the ulcer and strapping one square piece of oiled silk is laid. This at once seals the ulcer; and in order to prevent the edges of the oiled silk from rubbing up, he further fastens them down with small strips of plaster. If the discharge be profuse the sealing will require to be repeated in a couple of days, but the intervals of removal are quickly prolonged, inasmuch as the exclusion of air limits the discharge and facilitates the formation of skin from the edge of the ulcer. No other application is required, and the ulcer speedily heals. Mr. Holt never destroys exuberant granulations by sulphate of copper or other caustics, as the encroaching skin speedily produces their absorption, and the application of caustic destroys the fine filamentous cuticle that is to close the ulcer. He has employed this method of treatment for years with the most satisfactory results. Of course these observations only apply to ulcers that are not the result of any specific poison.

Mr. Cowell rarely uses ointments in the treatment of ulcers of the leg. The inflamed or discharging ulcers he treats with weak carbolic acid lotion (1 in 40), accompanied, in most cases, with the administration of some saline aperient every morning. When there is less action, he recommends a lotion containing the sulpho-carbolate of zinc or copper—two of the salts introduced by Dr. Samson. This he uses of two strengths—two and a half and five grains to an ounce of water. These salts form a good stimulant, and seem to keep the sur-

face of the wound clean. Indolent sores are treated in the same way, with the addition of painting the surface twice or thrice a week with a solution of nitrate of silver (20 to 40 grains to an ounce). The solution is also painted over the whole of the surrounding skin when it is red and congested, as it speedily gives tone to the capillaries and small vessels of the part, and relieves the engorgement and stasis which prevent repair. Ulcers on the calf alone, Mr. Cowell considers to be always syphilitic. This form of ulcer, on whatever part of the leg it is situated, is of course treated with the black or yellow wash, and iodide of potassium is prescribed. Bandages are used in all the forms of ulcer of the leg, whenever they can be borne; otherwise, rest in bed is imperatively enjoined. Old chronic ulcers with callous margins are best treated, he considers, by strapping the foot and leg to above the ulcer, the latter being covered with the strapping without the interposition of any other dressing.

Mr. Cowell has employed skin-grafting in five cases of large ulcers of the leg. Two were successful after the first operation; a third succeeded after a second transplantation; the other two failed altogether. He prefers numerous very small pieces, as recommended by M. Reverdin, but thinks the size immaterial. The one essential for the success of the operation is a healing condition of the sore, the granulations being clean and healthy and not exuberant. This condition was imperfect in the failures above mentioned.

There are two cases now in the Westminster Hospital in which Mr. Cowell hopes soon to be able to perform the operation of skin-grafting; one is a case of burn, the other a large granulating surface on the abdomen, following a slough produced by exposure.

Mr. Richard Davy constantly declines attending out-patients with ulcerated legs, feeling convinced that nothing short of a revolutionary change in the habits of the London poor can justify an expectation of permanent relief. Out-patients thus refused attendance are recommended to enter the workhouse infirmary. Admitting that four or five drugs are efficacious for internal exhibition in the treatment of ulcers, and that lotions and ointments gratify the standard whim of an out-patient, sterling value must essentially be granted to extreme cleanliness and elevation of the limb, rest, and health-giving essentials.

As to skin-grafting and epidemic dust, both have succeeded in healthy sores; but the cicatrix so resulting, though more rapidly produced, is far more ready to reopen than that formed under a slower process. The callous-edged sore yields readily to the blistering plan of treatment (as taught by the late Mr. Syme). The most common dressing used by Mr. Richard Davy for open wounds in the out-patient department is perforated zinc, the metal resting lightly on the sore. The advantages of this metallic dressing are: 1. The dressing does not require to be removed, for it is readily cleansed by pouring water over it. 2. The sore is protected well from injury. 3. Should the dressing be removed by the surgeon, he gives neither pain nor causes bleeding from the granulations. 4. The evaporation from the surface of the sore through the perforations lessens fœtor, and favors healing by scabbing.

It would be a great advance in hospital progress if surgeons were authorized to order more liberally mechanical supports, such necessary appliances to be charged on the hospital funds. A modification of De Morgan's glue bandage has been used frequently, with good results, for those legs damaged by the ulcerative process and varix; but only as a cheap substitute for the cleaner and more convenient elastic stocking.

ST. GEORGE'S HOSPITAL.

Mr. Rouse finds that, as long as the sores are unhealthy, carbolic acid in some form is most useful; but he believes that it is generally used too strong. He finds a drachm to a pint of lead lotion quite strong enough. If the usual form of one in forty or twenty be used, the skin becomes inflamed around the sore. When the ulcers become healthy he uses strapping and bandage; if varicose veins be present Mr. H. Lee's method is most satisfactory. Mr. Rouse has treated five or six cases by skin-grafting with most satisfactory results; in fact, he has no doubt that that method is the best of all when the

ulcer is healthy. Few patients, however, can spare time to come into the hospital to have this done; and even if they could all the beds cannot be filled with such cases. In cases of chronic eczema and ulcer he treats the eczema with an ointment of ammoniated mercury and carbolic acid. This ointment seems to him to cure the eczema very rapidly.

CHARING CROSS HOSPITAL.

Mr. Bellamy says that the treatment of old standing ulcers of the leg in the out-patient department of a hospital is in general very unsatisfactory, from the fact that the essential adjuncts to therapeutical measures—rest, cleanliness, good food, abstinence from excesses in drink—are impossibilities with the class of patients afflicted. The most frequent form, that complicated with a varicose state of the veins, appears to be best relieved by a carefully applied bandage commencing at the web of the toes, or by a neatly adjusted method of strapping, maintaining equable pressure. If the patient can lay himself up for a while, the obliteration of the veins usually effects a cure. The internal administration of iron, and, if the ulcers be chronic, of opium, is of great use. Lotions of nitrate of silver, sulphate of zinc or copper, on pieces of lint of the size of the ulcer, are useful dressings. In the irritable form, rest, elevation of the limb at all such times as the patient is not absolutely obliged to use it, water-dressing and poultices, and the administration of iron, seem as good remedies as any. The chronic callous ulcer, which is frequently met with in old people associated with an oedematous condition of the feet or ankles, is greatly benefited by neatly applied strapping, blisters, and by the administration of opium. The local application of the aqueous solution of opium affords great relief. Opium is sometimes given night and morning. Of ointments or lotions, the ointment of nitric oxide of mercury, and zinc or copper lotions, are the best. A rather strong solution of carbolic acid has often been found of great service. Mr. Bellamy has, in many instances, transplanted cuticle, in old standing ulcers among out-patients, with considerable success. The great obstacle is, he thinks, the absolute necessity of the patients moving about to earn their bread, and their want of ordinary attention and of the means of existence in many instances. But the little pieces of transplanted cuticle can be pretty securely held on by being strapped down by the strong waterproof isinglass plaster, and the whole surface covered with lint, also securely strapped on. With the better class of patients—those who help the surgeon, in fact—the plan is often highly successful.

ST. MARY'S HOSPITAL.

Mr. Arthur Trehern Norton says that the majority of ulcers which occur in the out-patient department of a hospital are the result either of insufficient food, or of too long standing, or of varicose veins; and none of these are likely to be relieved by internal remedies. He therefore rarely uses such treatment; but in cases in which syphilis is present, that affection must be treated; and in phagedænic and in painful ulcers, a quarter to half a grain of acetate of morphia three times a day has a marked effect. In so-called varicose ulcers, the wound is itself frequently a cure for the varicose condition of the veins immediately around, but it is necessary that other enlarged veins should be supported. Among local remedies, carbolic acid, used as a lotion, in the proportion of five grains to the ounce of water, is one of the best. But under carbolic acid epithelium will not form. It should be therefore discontinued as soon as healthy granulations are developed. In using carbolic acid it is necessary to request the patient to apply it to the wound only, and not to allow it to touch the skin around. Mr. Norton has lately painted ulcers daily with a saturated solution of carbolic acid in glycerine, afterwards covering them both with a piece of dry lint. This treatment has been followed by good results. Passing on to other applications, such as calamine, oxide of zinc, and other ointments, astringent lotions, etc., he has found them useful only as changes. Strapping ulcers is very serviceable, but it is difficult to carry out in hospital practice. A great advantage gained by this treatment is a decrease in the required

amount of new tissue by approximating the margins of the ulcer, and consequently a proportionately less chance of recurrence, for this tissue possesses but little vitality and no elasticity, and therefore has a tendency to ulcerate or to rupture during a movement of the limb. With regard to skin-grafting, Mr. Norton has found it impossible to employ this form of treatment with success among out-patients, for without rest the vitality of the grafted piece cannot be maintained. Rest and sufficient food, the greatest necessities in the treatment of ulcers, are wanting in these cases.

Mr. Edmund Owen finds that the greater number of ulcers of the leg which come under his care are dependent on a varicose condition of the venous trunks of the lower extremity; and, as this is usually attended by but little real inconvenience to the patient, he is not readily induced to give them the time and attention necessary for their cure. If, however, the ulcer should be spreading rapidly, or have become much inflamed, or if it should have given rise to much hemorrhage, his serious attention is then called to it. If the sore be young and small, and treatment be applied before the surrounding integument has been much altered by impregnation from the inflammatory process, a cure may be speedily effected by the application of two or three pieces of strapping around the leg at the seat of the ulcer. The patient must be made aware of the necessity of avoiding much standing or walking, and should be instructed to keep his leg in the horizontal position when at rest. Unfortunately, the nature of the patient's occupation generally precludes the possibility of his following the first part of this advice to any great extent; nevertheless, if the veins of the limb be well supported from without, and the second part of the instructions attended to, a cure may be effected. Thus Mr. Owen has just discharged, as recovered, a hawker who had been for many months the subject of a large varicose ulcer on his left leg, and who was "on the walk" during the whole period he was under treatment. When, under the combined influence of nitrate of silver lotions and strapping, his ulcer had commenced to cicatrize, five grafts were applied to its granulating surface. Although the cure in this case was rapid, Mr. Owen did not think it was accelerated by this procedure.

At the Hôtel Dieu, it was taught by a well-known French surgeon that there was only one method of treating ulcers of the leg—viz., absolute rest and cataplasms. As he never varied his advice nor his treatment, he had a considerable collection of ulcers in his wards: their characteristic feature was flabbiness. Poulitices judiciously prescribed at the outset of treatment of the chronic sores, not only cleanse the surface, but, by unloading the small and distended vessels, and procuring resolution of much of the products of inflammation, prepare the way for future applications. After the poultice, and whenever the granulations are coarse, pale, and indolent, a weak solution of nitrate of silver is extremely beneficial. Great advantages, however, may be derived from an occasional change of the nature of the application; carbolic acid lotion, or ointments of nitric oxide of mercury, resin, or oxide of zinc, being employed, as the features of the case may indicate.

In another case, in which the ulcer was of an hour-glass shape, grafts were applied to the lower and larger part of the sore, and both parts were strapped; that part of the ulcer to which the grafts were applied was the first to become healed.

It is essential to the success of the graft that the ulcer be clean and healthy. In certain cases, the application of three small pieces of epidermis appears to exert a stimulating effect upon the whole ulcer.

When the ulcer is flabby and very foul, "tenax" is a valuable application, at once cleaning and stimulating the sore: it may be applied under a bandage or plaster. The irritable ulcer cannot bear this application, and may be well treated by a lead and opium lotion. If the sore be inflamed and very painful, cold-water dressings are indicated; or great relief may be procured from a poultice on which laudanum has been sprinkled. In every case the local remedies must be supplemented by mechanical, constitutional, and dietetic treatment. The support afforded by strapping is much superior to that of a bandage; for, however well the latter may have been applied in an out-patient consulting-room, it is sure to become loose and useless by the morning (much

of the œdema having disappeared during the rest in bed), even if the walk home have not interfered with its efficacy; whereas the strapping, by adhering closely to the integument, may exert sufficient pressure to cause temporary occlusion of the vein, thus taking the place of the valves (now useless on account of their wide separation), and breaking the force of the pressure of the column of blood. Chronic distension of the veins of the lower extremity, which is itself a great incentive to ulceration, is especially apt to exist among ironers and washerwomen who pass the day standing at their work, or drinking weak tea. The indication for treatment in this respect is as clear as it is important. The want of proper food amongst many of the poorer patients is well known; it is worse than useless to prescribe them medicines to increase the appetite when its gratification is out of the question. There is an excellent charity in the neighborhood of the hospital, called St. Mary's Kitchen, from which the medical officers enjoy the privilege of ordering daily dinners for such of their patients as they may think fit. The relief thus afforded is often of more value than any that the surgeon can order from the dispensary, for those suffering from ulcerated legs.

EDINBURGH ROYAL INFIRMARY.

Mr. Joseph Bell regards rest and graduated pressure by careful bandaging as the chief indication of treatment for all ulcers of the limbs. In cases of callosous ulcers, he always begins by blistering the surrounding thick hard edges. In varicose ulcers, black wash, and in eczematous ones, weak alkaline lotions are chiefly used. In fetid ulcers, he first thoroughly destroys the factor by careful soaking in cloths soaked in a strong solution of carbolic acid and water (1 to 40), then rubs the surface with a strong solution of chloride of zinc (forty grains to the ounce), and then dresses the sore antiseptically with carbolized gauze or sulphurous acid lotion. Mr. Bell approves of skin-grafting in every case of extensive ulcer, when once a healthy condition of the granulations has been obtained. He has not found that ulcers aided in healing in this way are at all more liable to recur than after gradual cicatrization from the edges.

ABERDEEN ROYAL INFIRMARY.

Dr. Fiddes endeavors to get the ulcers he has to treat into as healthy a state as possible, chiefly by means of rest and support to the limb. When an ulcer assumes a healthy granulating appearance, he employs skin-grafting and skin-dust, as it is called; and when either of them "catches," the sore is dressed daily with a piece of lint soaked in red lotion—one grain of sulphate of zinc to an ounce of water and a few drops of the compound tincture of lavender, covered with oil-skin and a bandage. He has found the cicatrix following the employment of either skin-grafting or skin-dust to be more durable and lasting—not so apt to break as a cicatrix healed up in the old way.

GLASGOW ROYAL INFIRMARY.

Dr. G. Buchanan says that the general treatment of ulcers is a subject too extensive to call for special remark. He employs rest in the recumbent posture, and moderately good diet, especially vegetables, in the case of women and others who largely substitute tea, bread, and ham, or cured fish, for more wholesome food; and, locally, support by bandaging, and stimulating, soothing, or astringent lotions, as the case demands.

Skin-grafting has been used in the treatment of large ulcers in his wards, and generally with success. To insure a favorable result, it is necessary that the surface of the ulcer be covered with clean granulation, not yielding a copious discharge. The plan which he adopts is as follows. When the graft is to be taken from the skin of a live member, he always takes it from the person who has the ulcer; he does not consider it proper to solicit permission to take it from any one else. The skin is pinched up with a pair of dissecting forceps, and with curved scissors a piece half an inch long and about one-eighth of an inch broad is cut off to the depth of the true skin. This is cut

into three or four pieces, and they are at once placed on the ulcer, the granulation having been previously shaped to make the surface raw but not bleeding. A strip of adhesive plaster is made to press the grafts and retain them in their place. The whole ulcer is then dressed antiseptically with a cover of protective oiled silk, over which is applied a bandage of carbolized gauze overlapping the silk by two or three inches, and at least eight folds thick. Under this dressing the grafts may be allowed to lie without the putrefaction of the discharge even six or eight days; at the end of which time it is common to find some if not all of the grafts adhering. Some keep in view till cicatrization begins to spread out from them; others disappear, except that a pale spot indicates where they were; but in most instances the change is perceptible from the place where the graft was placed.

Dr. Buchanan has tried, without success, to engraft epidermic scales scraped from the arm of a healthy person, but has discontinued the attempts.

The most important advance which has been made in skin-grafting is the employment of pieces of skin from recently *amputated limbs*. This he has practised with extraordinary success. The number of primary amputations in the Glasgow Royal Infirmary is so great that there is never want of opportunity of getting fresh healthy skin, without having recourse to taking it from the living body. As soon as an arm or leg has been removed, for injury, the house-surgeon or dresser carries it to the ward where the case requiring grafting is. He then carefully dissects from the palm of the hand near the wrist, or the sole of the foot near the instep, where the skin is very vascular and the epidermis not too thick and hard, as many pieces as are necessary to do all the grafting required at that time. In taking grafts from a recently amputated member, much larger pieces are used than when taken from the living body—pieces about a quarter and even half an inch square having often been grafted with success. Dr. Buchanan considers that this aspect of skin-grafting has a far more important bearing on conservative surgery than on the treatment of ulcers. He has been enabled to save limbs which formerly he should certainly have amputated, where the destruction to the integument was so extensive as to preclude all possibility of cicatrization, unless by the assistance afforded by skin-grafting.

Dr. Dewar has found the treatment of ulcers by skin-grafting to be very successful. To insure success, he first brings the ulcer into a healthy condition (which is absolutely necessary), with healthy granulations and signs of healing commencing round its edges. The grafts which he uses are from the size of a barleycorn to that of a split pea. Those taken from a recently amputated limb or other part he has found to do equally well with when taken from the living subject. Dr. Dewar has found this form of treatment of great benefit in extensive raw surfaces from burns implicating the flexures of joints, and when the cicatrix is apt to be followed by contraction.

ART. 141.—*Treatment of Boils.*

By Dr. SIMON, of Lorraine.

(*Scalpel of Belgium*, Sept. 8; and *The Lancet*, Nov. 16.)

Dr. Simon, of Lorraine, advocates a means of stopping boils and furuncles which he declares simply infallible. It consists in the following procedure: As soon as Dr. Simon perceives on any part of the surface the characteristic redness of varying form and size, and with a culminating point in the centre which soon passes from red to white, he puts in a saucer a thimbleful of camphorated alcohol, dips the palmar surface of his three middle fingers in the liquid, and gently rubs the inflamed surface, insisting especially on the central portion. This little proceeding is repeated eight or ten times, each time occupying about half a minute. The surface is then allowed to become quite dry, and a slight coating of camphorated olive oil is applied, so as to prevent the evaporation of the alcohol. A boil or furuncle seldom, says the author, requires more than four such applications, and often a single one is enough to

cause the boil to dry up and disappear. When several applications are needed, they should be made at intervals—say morning, midday, and evening.

The same kind of proceeding is equally successful in whitlows and all injuries of the tips of the fingers. As soon as pain and redness are perceived in the finger, it should be soaked for ten minutes in a small glassful of camphorated alcohol, then well dried, and finally soaked in another glassful of camphorated sweet oil. The relief is immediate, and three applications are generally enough to effect a cure.

ART. 142.—*On a New Method of Treating Ulcers.*

By PHILIP COWEN, M.R.C.S.L, L.S.A., Resident Medical Officer
Islington Workhouse Infirmary, Upper Holloway.

(*The Lancet*, Nov. 16.)

It occurred to Mr. Cowen on reflection, that, from whatever cause arising, whether constitutional or local, an ulcer could be considered as a local as-thenia of skin and parts beneath—a local weakness and loss of plasticity, a brittleness where softness, elasticity, and pliancy, yet strength should exist, a local tendency to degeneration and death. Whether the cause was from venous varicosity, or blood pressure from other causes, as indolence, or disease of the liver or heart, or from general decay of the tissues from intemperance or other enfeebling vices, or from senile decay, or want of food, or general feeble constitution, or from scrofula or syphilis; from any of these causes the ultimate result is, in an ulcer, the weakening and giving way of structures whose normal condition is to act as covering and protecting sheaths.

In several of these cases the skin is specially weakened, in others gives way through pressure; and in all cases the skin of the legs, from its depending, weight-bearing position, suffers the most. Knowing, as we do, that an ulcer has power of absorbing matters applied to its surface (any one can try the experiment with black wash to a moderately-sized ulcer for a few days, when mercurial salivation will begin), Mr. Cowen availed himself of so excellent a property by applying locally matters having nutritive power, so that the skin might be nourished locally at the weakened and degenerate spots, to enable the skin to take up such materials as would nourish its weakness and convert its brittle state into a plastic and healing one.

The natural secretion of an ulcer, the so-called laudable pus, may it not, the author asks, be a nourishing juice specially thrown out to feed the young growing granulations? If so, can we not add to this by artificial manuring?

Such is Mr. Cowen's theory. To carry it out he made the following mixture of glutinous ingredients: Flour, four ounces; powder of acacia, one ounce; powder of tragacanth, half an ounce; one egg; chalk, two drachms; cold water, one pint. These were all mixed together, and placed on the fire in a saucepan. Just as it began to boil, or after boiling a minute, it was removed, and allowed to cool. If found too thick, it was made thinner by adding a little boiling water, and stirring, so that it was of the thickness of ordinary paste; thin enough to be spread over the ulcer, by means of a little brush, yet so thick that it will remain on the ulcer. Probably such a mixture is not necessary; either the flour paste alone, or the acacia, might be sufficient; but Mr. Cowen prefers it as it stands. The patient, provided with a pot and brush, thickly paints the ulcer all over three or four times daily, and covers the ulcer with a thin piece of soft rag. No other treatment nor washing is had recourse to, except to remove the rag. To keep the materials sweet, only sufficient is poured into the patient's pot for the day (pot and brush washed daily). The flour, acacia, tragacanth, and the egg, supply the ulcer with all the necessary materials for its repair; the chalk has a further good effect by supplying lime.

With regard to the results. During the six weeks Mr. Cowen tried the remedy, eighteen cases have been so treated, all with the happiest result.

ART. 143.—*On the use of Plaster Splints in Remedying Displacements in Fractures Irreducible by other means.*

Under the care of Dr. LABBÉ, at the Hôpital de la Pitié.

(*The Lancet*, Aug. 3.)

All surgeons know how difficult it is sometimes to remedy certain cases of oblique fracture of the lower third of the leg, in which the upper fragment projects under the surface. Various apparatus have accordingly been devised for the purpose of preventing this displacement. In France, Malgaigne in such cases used to employ his metallic point, which was fixed into the upper fragment so as to exert a certain degree of pressure, and prevent any fresh displacement. The fixing of the metallic point was attended with some inconvenience; besides, it is a special instrument and not easily procurable. We were therefore struck with the advantages afforded by an ingenious contrivance which we saw Dr. Labbé employ with success a short time ago in his wards at the Hôpital la Pitié.

The patient was a woman aged forty. Whilst in a state of intoxication she had been run over by a gig, and was at once conveyed to the hospital. Fracture of the lower third of the leg was found to have occurred, with very marked displacement of the upper fragment, which projected under the skin and threatened to tear through. A splint was immediately applied by one of the house-surgeons.

As the woman was laboring under delirium tremens, it was found necessary to use the strait-waistcoat, and strong doses of opium were administered. However, in consequence of the restlessness of the patient the upper fragment of the tibia projected more and more under the skin, so that it became necessary to use some means to prevent its issue through the surface. Accordingly the apparatus was modified, and a cushion placed under the heel, but to no effect, and there was imminent danger of the fragments lacerating the skin. It was at this time that Dr. Labbé first saw the case, and with the view of definitely remedying the displacement and preventing deformity, he applied a plaster splint in the following manner: Reduction was first performed with the greatest care. As soon as this was completely effected the plaster splint was applied so as to cover the sole of the foot, the heel, and the whole of the posterior surface of the leg. The assistants were then requested to continue extension, counter-extension, and perfect apposition of the fragments until the plaster had become hard. At the end of half an hour the apparatus was sufficiently solid. From that moment all anxiety about a breach of surface ceased, and notwithstanding the disorderly movements of the patient, which continued two days longer, consolidation took place so perfectly that it was quite impossible to make out the seat of the fracture.

ART. 144.—*On the Sensibility observed after Section of the Sensory Nerves of the Face.¹*

By Dr. LETIÉVANT, of Lyons.

(*Gazette Hebdomadaire*, No. 40, 1872.)

The author having had occasion, about eight months previously, to divide, for the treatment of a rebellious facial neuralgia, the infra-orbital, buccal, and inferior dental nerves, an operation which was followed by immediate and complete success, observed in the regions supplied by these nerves phenomena of sensibility which he thinks were interesting and not much known. From this case, and a few others, reported by Wagner and Burns, he believes that he is

¹ Read before the Medical Congress of France held at Lyons.

able to conclude that after section of a facial sensory nerve, there may exist in the parts supplied by this nerve a special sensibility which M. Letiévaut explains by the action of the nervous papillæ of the skin and the more or less numerous anastomoses received by the divided nerve along its extra-cranial tract.

This sensibility cannot be explained by a nervous regeneration, for it has been observed to come on about six hours after section. It is subjected to irregular oscillations, which the author explains by an inflammatory swelling of the tissues, or by a local numbness arising from the sudden passage of neuralgic over-excitability to an absolute non-excitability; finally, it is never so perfect as the normal sensibility.

These cases ought to put us on our guard against certain cases of nervous regeneration, and ought to dissipate the doubts of surgeons who hesitate to practise neurotomy for fear of producing persistent paralysis of sensation.

ART. 145.—On the Supply of Motility and Sensibility after Section of Nerves.

By Dr. LETIÉVAULT, of Lyons.

(*Gazette Médicale de Paris*, No. 38, 1872.)

This communication was made to the Medical Section of the French Association for the Advancement of Science, held at Bordeaux in September. 1872.

The author alludes, in the first place, to cases where, in consequence of division of a mixed nerve, there may be observed in the parts supplied by this nerve, instead of complete paralysis, a persistence of a certain degree of motility and sensibility. The explanations which have been given of facts of this kind, assume a regeneration of the nerve or of its anastomoses. M. Letiévaut, however, proposes a new explanation.

He quotes a case of a man who had an attack of tetanus after a wound of a terminal branch of the median nerve. This nerve was divided, the patient recovered and retained both motility and sensibility in the region supplied by the divided nerve. Still there had been no union of the two ends. M. Letiévaut studied and analyzed in the following manner the phenomena which were observed by him:—

Motility.—The muscles supplied by the median nerve were paralyzed and atrophied, and yet in them movements were possible. But pronation was made with the help of the shoulder-joint, flexion of the wrist by means of the flexor carpi ulnaris, flexion of the middle finger in consequence of the anastomosis of its flexor tendon with the flexor tendon of the ring finger, flexion of the index finger through the radial extensor muscles of the wrist which straighten the hand, and even with the concurrence of the extensor indicis: these muscles, by bringing backwards the wrist and the index finger, cause a movement of flexion in the flexor tendon of the index finger, as it acts upon this digit like a passive cord. Flexion of the thumb is produced in the same way by means of the long abductor and the extensor of the thumb.

Thus the motility in this case was due to the action and assistance of accessory muscles.

Sensibility.—The sensibility, though obtuse, still remained in the middle finger. The sensation of touch was possessed in all the region supplied by the median nerve, the sensations of pain and of temperature were also retained in all parts except at the extremity of the index finger. These facts might be attributed to the existence of anastomoses, but M. Letiévaut prefers to explain it by supposing the perception of sensations by means of neighboring filaments from the radial nerve. He mentions an experiment which shows that one finger of a person, placed exactly between two fingers of another person, communicates to the latter the impressions which it receives. There is nothing astonishing then in the supposition that the filaments of the radial nerve on the dorsal surface of the fingers may be excited when one acts upon the palmar surface. Education would develop this sensibility. Thus, in the

patient in question, nineteen months after section of the median, it was difficult to believe that any operation of the kind had been practised.

M. Letiévaut has observed similar facts after section of the radial, ulnar, and sciatic nerves. In all the cases the sensibility presented at first was very dull, but afterwards was much improved by exercise.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 146.—*On the Treatment of Head Injuries.*

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery*, pp. 1088. London: 1872.)

Having carefully considered the whole subject of concussion and injuries of the brain, including compression and extravasation of blood with or without fracture of the skull, the following inferences—Mr. Bryant writes in his excellent manual, just published—may be fairly deduced:—

General conclusions.—1. Injuries of the head are of importance only so far as they involve the cranial contents—a simple uncomplicated case of fracture of the skull being of less danger than a general concussion of the brain.

2. A slight concussion of the brain, associated or not with a fracture of the vault or the base of the skull, which manifests itself by a slight or passing suspension of the cerebral functions, generally does well.

3. A severe concussion or shaking of the brain, associated or not with a fracture of the vault or the base of the skull, is liable to produce contusion or laceration of the brain substance, either upon its surface or within its ventricles, with more or less extravasation of blood, and when the vessels are diseased, a copious hemorrhage often follows a slight injury.

4. In cases of severe concussion of the brain, the cerebral structure is at least as much injured by *contre-coup* as at the seat of injury, the base of the brain suffering the most. Fracture by *contre-coup* does not take place.

5. A fall upon the vertex from a height, or a blow upon the head from a blunt instrument, may be followed by fracture of the skull, or not; such an accident produces, as a rule, a general concussion of the brain, with such complications as contusion or laceration of the brain, and effusion of blood either upon its surface or within the ventricles.

6. Falls upon a pointed object, and blows with a sharp instrument, as a rule, are followed by a local fracture; and if the brain be injured, it is at the seat of injury. As a consequence, the symptoms may be accounted for by local causes only, and the surgical treatment directed by local considerations.

7. When symptoms of compression of the brain immediately follow an injury to the skull produced by a fall from a height, or a blow from a heavy and blunt instrument, the cerebral injury will be general, the brain contused and lacerated, particularly at the base by *contre-coup*, and if extravasated blood be found external to the dura mater, blood will also be found upon the surface of the brain, or within its membranes.

8. If symptoms of compression of the brain follow a local injury produced by a fall upon a sharp object, or a quick blow from a pointed one, such symptoms, as a rule, are produced by local causes, such as depressed bone, or extravasation of blood from rupture of the middle meningeal artery.

9. Such local injuries, when they give rise to marked or persistent symptoms, should be treated by elevation of the depressed bone; but if no general symptoms are present, unless the bone be comminuted and can be easily removed, no operation is indicated; a local pressure of the brain by bone, although severe, uncomplicated with symptoms, generally doing well.

10. When compression of the brain follows a local injury over the course of the meningeal artery after an interval of time, and when reaction has been es-

tablished, although no depressed bone be present, the operation of trephining may be performed with a chance of success, the blood, often, however, passing downwards towards the base, where the operator cannot reach it.

11. When compression of the brain follows, as a secondary result, a general injury—although that compression is evidently produced by extravasation of blood—the operation of trephining is useless, if not injurious; for although blood may be effused from rupture of a meningeal artery, there will certainly be found some contusion or laceration of the brain itself, or extravasation beneath its membranes, which the operation cannot relieve.

12. Encephalic inflammation may follow any concussion or injury to the brain, however slight, whether complicated with fracture or not; and the danger of such a result is in proportion to the encephalic injury. In cases of contusion or laceration of the brain, with extravasation of blood, it is almost sure to follow, and, as a rule, it will produce a fatal termination. This inflammation may appear within a few hours of the accident, or it may be postponed for some days; it may be very rapid in its course, or very insidious in its nature. If the brain itself is the seat of the disease, it is generally insidious, giving rise to either a diffused or local abscess; but if the membranes are involved, effusion, convulsions, coma, and death will rapidly take place.

13. The operation of trephining is perfectly useless in cases of severe concussion of the brain, whether associated or not with fracture, although it may relieve compression arising from local conditions; for the brain is generally injured by *contre-coup* at its base, or in positions where no operation can be of benefit, but must prove injurious.

14. The operation of trephining is only of value in local injuries to the skull, when associated with symptoms of compression from depression of bone, or the local extravasation of blood between the bone and the dura mater.

15. Fractures of the base of the skull may take place alone, and be marked by only special symptoms; they may be associated with, and are generally found in, all cases of severe fracture of the vault, when produced by a heavy fall or blow, the fissures radiating downwards in a direction parallel to the forces employed.

16. Fractures of the base may be complicated with encephalic injuries similar to fractures of the vault, and may consequently be manifested by general symptoms as well as special ones; in severe cases the former completely masking the latter. The injury, however, may generally be diagnosed, the mode of its occurrence indicating the probability of its nature.

17. All injuries to the head should be treated with extreme care and regarded as serious. Rest in the horizontal posture, freedom from excitement, bland, nutritious, unstimulating food are essentials under all circumstances, the great principle of practice being to ward off excess of reaction or inflammation of the cranial contents.

ART. 147.—*A Case of Tuberculous Ulceration of the Tongue.*¹

By M. FÉRÉOL.

(*Gazette Hebdomadaire*, No. 31, 1872.)

The man who was the subject of this case had been tuberculous for about eight months. He presented no symptoms of antecedent syphilis. Fifteen days before he came under the care of M. Féréol he found out the existence of a small painful tubercle near the tip of the tongue on the left side. The patient had been an excessive pipe-smoker, and he had several bad teeth and also stumps which might have readily wounded the tongue. Several other tubercles made their appearance in the neighborhood of the first, and slowly ulcerated. At the time of his admission under M. Féréol the ulceration presented the following characters: irregular in form, it extended transversely from the middle of the left half of the upper surface of the tongue and passed round the

¹ Communicated to the Société Médicale des Hôpitaux, Paris.

left edge of the organ and involved the lower surface. At the upper part of the tongue the ulcer had the aspect of a fissure with well-marked jagged and slightly undermined edge. The base of the fissure presented about a dozen rounded and nipple-shaped projections of a violet or rose color, which were compressed together. On the inferior surface of the tongue the ulcer was larger, of an oval shape, and with a grayish-colored base speckled with yellowish pultaceous deposits. Here the ulcer was less deep, its edges were not so sharply defined, and were surrounded by intensely injected mucous membrane. The surface of the ulceration was unequal, undulated, but not studded by nipple-shaped growths. The ulceration extended to the glosso-lingual groove, and formed a small narrow raw surface of a yellowish-gray color, and studded with yellowish spots which were the ulcerated orifices of the mucous glands.

The whole of the ulcer was supported by a slightly hardened base, which rendered the left half of the tongue thicker than the right half. The sub-maxillary glands were slightly enlarged and painful. M. Féréol had the teeth filed, and ordered the continuous application to the ulcer of small plugs of charpie dipped in a solution of chlorate of potash. Under this treatment the ulceration underwent modification. The nipple-shaped protrusions disappeared and left a depression, at the bottom of which could be perceived, on separating the edges of the wound, the muscular fibres of the tongue. The lower part of the ulceration seemed to proceed towards cicatrization, but though there was apparent contraction of the ulcer in its totality, it was made out that the ulceration had extended downwards. The muscular fibres were exposed, and there was considerable undermining of the edges of the raw surface. The induration at the base of the ulcer had almost entirely disappeared and the glands could hardly be felt. The yellowish follicular points still persisted about the ulceration.

At this period a small antero-posterior fissure, of a grayish color and with an indurated base, made its appearance on the lower lip, near the right commissure, at the point where the man was in the habit of holding his pipe. At first this fissure increased in all directions, but on the application of chlorate of potash became modified.

What was the nature of this ulceration? M. Féréol rejects the idea of a chancre or of a syphilitic gummatous ulcer, of epithelioma, and of simple traumatic ulceration caused by bad teeth, and he admits the tuberculous nature of the ulceration. M. Trélat, who examined the patient, thought otherwise. The bad state of the teeth and the frequent contact of a pipe with the tongue he considered to be the probable exciting cause, but at the same time he allowed that the diathesis of the patient had impressed on these lesions special characters which correspond to all the descriptions of tuberculous ulceration of the tongue.

M. Cornil, who examined microscopically small fragments of the ulcer removed by scissors, made out the following: 1st. The vegetations, which were continuous with the lingual mucous membrane at the edges of the ulcer, were hypertrophied lingual papillæ, the anatomical elements of which had not undergone any alteration. 2dly, the granulations which occupied the base of the ulcer were ordinary fleshy granulations with the well-known structure of inflammatory granulations (round embryonic cells disposed side by side in a granular amorphous substance); these granulations were very vascular. 3dly, a small grayish mass taken from the surface of the ulcer was also composed of vascular embryonic tissue.

ART. 148.—*On Epithelial Cancer of the Tongue.*

By JOHN WOOD, F.R.S., Surgeon to King's College Hospital and Professor of Surgery in the College.

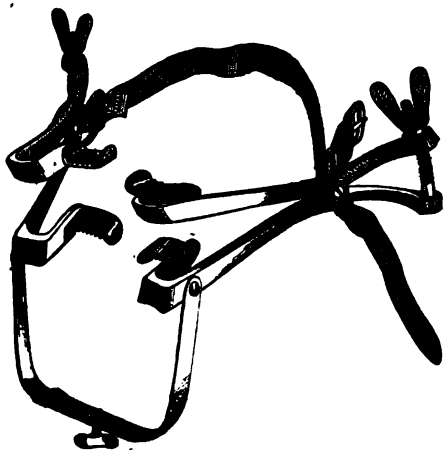
(*The Lancet*, September 28.)

To remove the disease, the least painful, most manageable, and most effective plan is, Mr. Wood states, by the application of the knife or scissors. Caustics in this situation work too slowly and superficially, and too painfully and uncontrol-

lably, to be valuable in any other way than as secondary to the absolute removal of the diseased mass. Used in this way they are of great value, and are always employed by Mr. Wood in the form of the solid or a saturated solution of the chloride of zinc, sometimes combined with the perchloride of iron, and frequently applied to destroy any remains of the disease which may have escaped the knife. The latter has also the additional advantage of stopping any bleeding which may still further lower the resisting powers of the patient to the invasion of the disease.

Up to the present time the operation for the removal of the tongue or any part of it has been considered by most surgeons as one of those in which the blessings of anæsthesia could not with safety be afforded to the patient, for reasons which will be at once apparent—viz., first, the removal by the anæsthetic agent of the voluntary assistance which the patient can render in all operations upon the interior of the mouth, by keeping the jaws and mouth wide open and the tongue steady; and secondly, the supposed danger, in profuse bleeding into the pharynx, of suffocation by the blood passing into the larynx and trachea. It is very evident that if we cannot in these cases offer to our patient a means of relief unattended by immediate pain, and that of a most severe character, at least half of the advantages of, and inducements to, the treatment involving such an operation are thrown away, and patients will be naturally indisposed to listen to the only promise of relief which can honestly be held out to them. If, then, we can render by any means the necessary operations painless, we confer a boon on humanity not by any means small to the poor creatures thus afflicted.

By the use of the instrument made for Mr. Wood by Messrs. Matthews, a perfect and steady command over the jaws is obtained, without encroaching upon or interfering with the cavity of the mouth. (See figure.) It consists of



four teeth plates, which act on both sides upon the upper and lower bicuspsids by means of a pair of powerful cross levers, placed outside the cheek, and opening independently of each other by a screw on each side through a simple hingejoint. Combined with these levers as they bend into the mouth is a groove to receive the angles of the lips, which are thereby kept wide apart, and out of the way of the light, which is so necessary in securing bleeding arteries in a deep cavity like the mouth. The two sides of the instrument are connected and kept together by a bent piece of metal, which passes under the chin altogether out of the way of the operator, and which is capable of being adjusted to the width of the lower jaw by a sliding groove and fixed by a screw. The whole is held firmly upon the patient by a strap passing round the back of the neck and buckling on to the opposite piece. This instrument has been

adopted after a great many trials of different kinds of gags, including that most valuable one for operations upon the palate invented by Mr. Thomas Smith, but which, from the embarrassing presence of the tongue-plate, proved inadmissible in operations upon the tongue. In some respects the present instrument resembles this, and the differences are mainly such as refer to leaving free the tongue and holding the lips well stretched out. The gag is equally effective in operations upon the tonsils and larynx, and Sir W. Fergusson employs it, with entire satisfaction, in cases of staphyloraphy.

Having obtained the necessary control of the movements of the patient's lips and jaws during the insensibility produced by chloroform, we have only to look to those precautions against bleeding and the passage of blood into the larynx which are usually found most efficacious, such as turning the head down to one side and clearing the throat with the finger. If the knife be used the tongue must be held well out of the mouth by a good-sized vulsellum forceps, with hooks sufficiently large and widely placed to prevent their tearing out of the sound fleshy substance of the tongue into which they should be inserted. If the tumor is likely to be very vascular, as may be in some measure divined from its appearance, Mr. Wood has usually passed first a stout ligature across the ranine arteries under the base of the tongue, by means of a curved needle in a handle—the one, in fact, which he devised for the performance of the operation for the radical cure of hernia. This controls the hemorrhage until the cut ends of the vessels have been secured. The tumor is next seized by a pair of stout double-toothed lion forceps, known as Wilcox's forceps. Mr. Wood has found these by experience to be less apt to slip than any other he has tried. Then a curved, sharp-pointed bistoury, to transfix the tongue close to its base, and to cut first antero-posteriorly and then laterally across the vessels and nerves, will suffice rapidly to clear away the diseased mass. In securing the arteries much steadiness on the part of the assistant is required. The muscular substance of the tongue is so friable under the circumstances that it is readily broken down by too much vigor in drawing the knot; while the depth at which the cut vessels lie from the surface necessitates dexterity in slipping the thread over the forceps, the points of which should be conical and taper quickly to the end. The proper tying of the vessels, and the prompt application of the tincture of the perchloride of iron and chloride of zinc by a strip of lint tied round a stick, will render the use of the actual cautery rarely necessary to subdue the hemorrhage. Mr. Wood adds that it is astonishing how rapidly the patients recover after this operation; and, if too much blood has not been lost, how soon they regain strength and a more healthy appearance. Freedom from pain, undisturbed rest at nights, improved appetite, and reinvigorated digestive powers account for this satisfactory result.

ART. 149.—*On Transplantation of the Cornea.*

By HENRY POWER, T.R.C.S.

(*Medical Times and Gazette*, August 10.)

At a meeting of the International Ophthalmological Congress, Mr. Power gave an account of transplantation of the cornea. After briefly recording previous attempts to transplant the cornea—some as early as 1823—the speaker described the first suggestion of the idea to his mind, his preliminary experiments on animals at the Brown Institution, and the method which he has adopted in several cases in the human subject. He removes a portion of the opaque cornea of the patient with a special sharp punch, obtains a portion of a healthy rabbit's cornea exactly corresponding by the same means, and transfers it to the space in the human eye, which it of course accurately fits. The lids are fixed together, and in a week union is complete. Whether the portion transplanted will become perfectly clear he cannot yet, from want of experience, say. Mr. Power exhibited a patient on whom he had lately operated with promising results. He submitted the operation to the members for trial and improvement.

ART. 150.—*Canthoplasty in Conjunctival and Corneal Affections.*

By H. ALTHOF, M.D.

(New York Medical Record, March 1.)

At a recent meeting of the Medical Society of the County of New York, Dr. H. Althof read a paper entitled "Clinical Notes on Diseases of Conjunctiva and Cornea." Its main object was to call attention to an important element, hitherto rather neglected in the therapeutics of these affections—viz., the diminishing of the pressure of the lids upon the globe. After a review of the present methods of treating the more serious forms of conjunctival disorder—granular lids, diphtheria, blennorrhœa, etc.—all of them only partially under the control of the physician, Dr. A. entered more directly upon its special subject.

Thus far, three different procedures had been occasionally followed for the purpose of relieving the ball of the eye from excessive pressure—viz., incisions or excisions of chemotic conjunctiva; removal of a triangular piece of skin (down to the muscle) from the upper lid; and splitting of the outer angle. This last method undoubtedly suited best, but its good effect was very transitory, the wound healing up in too short a time (a couple of hours) to give any permanent relief. If, therefore, a way could be found to modify this remedy so as to make its results lasting, the therapeutic means at our disposal would receive a valuable addition. This Dr. Althof thought to have been found in the little operation known under the name of *canthoplasty*—the splitting of the external commissure down to the conjunctival sac, and careful uniting of the conjunctiva to the outer integument.

The results of this simple procedure had been very favorable, a large number of cases at present testifying to its efficiency. It had rapidly become popular in our great infirmaries, and was now, after five years' trial, considered by American oculists a very welcome remedy in cases which had baffled the most skilful efforts, and in diseases against which the prevailing treatment was almost powerless. Granular lids and phlyctenular conjunctivitis and keratitis furnished the great majority of cases, in which canthoplasty might be employed with advantage—to cut off acute attacks, to diminish the number of relapses, or prevent them altogether, and to give other remedies a better chance of effecting a perfect cure. In genuine diphtheria the doctor thought it almost indispensable; and blennorrhœa in its most acute and destructive forms lost most of its dangers.

ART. 151.—*Treatment of Pterygium by Transplantation.*

Under the care of Mr. GEORGE LAWSON.

(Medical Times and Gazette, June 22.)

The following case is illustrative of a very efficient method of treating pterygium, and as four years have elapsed since the operation was performed on the one eye of this patient, there is reason to believe that the cure is likely to be permanent.

John K., a young man, aged thirty-four, came to the Royal Ophthalmic Hospital four years ago, with a well-marked pterygium in the right eye, and one commencing in the left. Mr. Lawson treated the pterygium in the right eye, by transplanting the apex of the growth from the cornea to the conjunctiva in the lower region of the eye. This operation is easily and rapidly performed, and the result most satisfactory. The man suffered only a few days' inconvenience from the operation; the pterygium in its new locality steadily shrunk away, and has never since given any annoyance. The pterygium in the left eye, which four years ago was very small, had now considerably increased, and it was for the purpose of having this eye similarly treated that the man again applied to the Hospital. Mr. Lawson accordingly adopted the same

method of transplantation, and in a week the patient was able to return to his work.

The great advantage which transplantation of the pterygium offers over excising the growth is that there is no loss of conjunctiva, and consequently no cicatrix on the inner side of the eye to cause a limitation of the movements of the globe outwards.

ART. 152.—*The Art of Tinting Opacities of the Cornea.*¹

By C. BELL TAYLOR, M.D.

(*British Medical Journal*, August 24.)

The author pointed out that, by means of fine needles or a grooved instrument manufactured for the purpose, unsightly opacities of the cornea may be so tattooed or tinted over with Indian ink and various other substances as to be indistinguishable from the neighboring black pupil. Not only is the deformity thus removed, but the sight is also improved, owing to the suppression of the diffusion of light. The method is almost painless, free from danger, and easy of execution. When nearly the whole of the cornea is opaque, it is easy to restore a natural appearance by tattooing a central black pupil; and after iridectomy, extraction of cataract, etc., the dazzling, if excessive, may be limited by tinting a portion of cornea so as to constitute a permanent shade. It is not necessary to confine the patient or close the eye. When a solution of lampblack and nitrate of silver is employed, one sitting suffices. The opacities should be tattooed obliquely, beginning from below. An interesting case was shown in which, after the formation of an artificial pupil and subsequent abscission of a staphylomatous cornea (which operation restored tolerable sight and the normal contour of the globe), a natural appearance had been restored to the eye by tattooing a central pupil.

ART. 153.—*Treatment of Granular Lids and Conical Cornea.*

By CHARLES BADER, Assistant Ophthalmic Surgeon Guy's Hospital.

(*Medical Times and Gazette*, August 10.)

At a meeting of the International Ophthalmological Congress, Dr. Bader exhibited a patient who had been the subject of apparently hopeless pannus from granular lids, in which the left eye had been treated for nine months with quinine applied locally. The immediate effects of this were suppuration occurring within five minutes of its use; the other eye was not thus treated, and though formerly it was a much better eye than the other, the latter was now the better of the two. He also exhibited two other cases—one of tattooing corneal opacity, the other of conical cornea, in which the projecting portion was shaved off, the lids closed over the wound, and slight compression used. No synechia followed, and the contraction of the wound so altered the form of the corneal surface that vision became greatly improved. He formerly brought the edges of the wound together by sutures, but had abandoned that practice for the simpler plan just described.

ART. 154.—*Treatment of Entropion.*

By JAMES MARTIN.

(*British Medical Journal*, September 7.)

Mr. James Martin's son, Dr. John W. Martin, has brought under his father's notice a plan which he saw adopted in such cases by Dr. De Wecker, of Paris, and from which he has had exceedingly good results. It is easily performed,

¹ Read before the British Medical Association.

gives little trouble to the patient, and leaves, to Mr. Martin's mind, a better-looking eye than that from which the tarsus has been removed.

The point where the inversion is worst and doing most mischief is noticed; and, as near to the edge of the tarsus as possible, the point of a small curved needle, armed with a flaxen thread waxed, is inserted, and carried beneath the loose textures of the eyelid as near to the supraorbital ridge as tact and judgment show to be desirable. The needle being brought out, the ends of the suture are tied firmly with a double knot over the intervening skin; the ends are cut off; and the ligature is left to ulcerate out, which it will do in six or eight days. A wet compress may be applied. When all irritation in the lid has subsided, an examination should be made to find out if there be another point requiring a repetition of the stitch. Many cases require three or four stitches, but two generally answer.

ART. 155.—*On Sympathetic Ophthalmia.*

By M. WARLOMONT.

(*Medical Times and Gazette*, August 3.)

At a meeting of the International Ophthalmological Congress on August 1st, M. Warlomont, of Brussels, read a paper "On Sympathetic Ophthalmia."

1. When an eye has been destroyed, either by accident or disease, or when the globe has become atrophied from either cause, if it remain painful or even tender to the touch, or if it manifest signs either of acute or chronic inflammation, it may give rise to sympathetic phenomena in the other eye. These sympathetic phenomena may even exist without any appreciable irritation of the eye originally affected. 2. In both cases, whether from injury or disease, it is important to enucleate with as little delay as possible after the manifestation of the first signs of sympathetic mischief. When the sympathetic influence has caused an irido-cyclitis, with exudations, enucleation is almost useless, because it has been delayed too long. 3. When an eye has been destroyed by an injury, it is very much for the advantage of the patient that enucleation be performed under chloroform with as little delay as possible. He is in this way preserved from the consequences that too often follow from this form of injury. Enucleation, therefore, as a preventive measure deserves to be encouraged.

ART. 156.—*Treatment of Chronic Conjunctivitis.*

By J. H. HOLLISTER, M.D.

(*New York Medical Record*, September 16.)

Dr. Hollister mentions a case of chronic conjunctivitis which was rapidly cured by the application of an ointment of the biniodide of mercury to the outside of the eyelids.

ART. 157.—*On Optic Neuritis.*

By Dr. DE WECKER.

(*Medical Times and Gazette*, August 3.)

At a meeting of the International Ophthalmological Congress at the Royal College of Physicians, on August 1, Dr. De Wecker, of Paris, read a paper "On Optic Neuritis," which he attributed to an effusion of fluid within the optic nerve sheath, the pressure of which produces the atrophy, and the other symptoms, which he proposed to relieve by neurotomy of the optic nerves. He makes an incision between the exterior and inferior recti muscles down to the sclerotic and dislocates the globe by a spatula, making an incision through the sheath one centimetre behind the globe. He had done the operation in two cases with relief.

ART. 158 — *On a New Method for Extraction of Cataract.*

By R. LIEBREICH, M.R.C.S., Ophthalmic Surgeon at St. Thomas's Hospital.

(St. Thomas's Hospital Reports, vol. ii. 1871.)

The distinctive peculiarities of Mr. Liebreich's method are, that the section is made in a downward direction and lies entirely (except the points of puncture and counter-puncture) within the cornea, and that there is no iridectomy. The instruments employed are a very small Graefe's knife, a cystotome, and a common Daviel's spoon, all of which may be combined in a single handle. The patient is placed on his back, the pupil having been previously dilated with atropia, and chloroform may be administered if necessary; the surgeon stands behind the patient's head to operate on the right eye, and at his left side to operate on the left eye.

"Supposing the right eye is to be operated upon. In that case the operator takes hold of the upper eyelid with the index finger of his left hand, whilst he slightly presses the middle finger against the inner canthus of the eye. The knife held in the right hand with its back horizontal and backwards, the plane of the blade making with the horizontal meridian of the eye an angle of about 45° , enters the sclerotic with its point about one millimetre externally to the margin of the cornea. . . . Without altering the direction, the knife passes through the anterior chamber in order to make the contra-puncture on the opposite side, so that the point of the knife becomes visible in the sclerotic, about one millimetre (or less) distant from the cornea. The knife is now pushed forwards, so that its retraction finishes the incision. As soon as the incision is made the eyelid is to be dropped.

"The second part of the operation consists in the careful opening of the capsule.

"In the third part, Daviel's spoon is slightly pressed against the inferior margin of the cornea, and the index finger of the left hand, which holds the upper eyelid, through it exerts a very slight pressure on the highest point of the cornea. Thus the lens is made to rotate a little, its lower margin presses in the manner already described against the posterior surface of the iris, pushes the iris forward, passes along it to the margin of the pupil, overcomes the obstacle, and places itself freely in the wound, which is made to gape by Daviel's spoon pressing against it. A slight pressing movement of the index finger of the left hand, by means of which the upper eyelid is shifted from above downwards over the cornea, serves to expel the lens. Similar movements of the lids are employed for the purpose of forcing out any *débris* of the cortical substance, after pushing them from behind the iris towards the pupil, by gently rubbing the shut eyelids. Should the pupil then not appear round, but its margin drawn towards the wound, it regains its normal position by an outward shifting of the lower lid; or, if that be not sufficient, by the introduction of Daviel's spoon."

The after-treatment consists in the instillation of atropia, and the application of a compressing bandage.

ART. 159.—*On Syphilitic Iritis.*

By Prof. HERMANN SCHMIDT, of Marburg.

(Berliner klinische Wochenschrift, ix. 23, 1872; Schmidt's Jahrbücher, No. 7, 1872.)

Professor Schmidt's remarks are based on thirty-four cases which were treated in hospital. Of the subjects thus affected, twenty-four were females and ten males. The ages varied between twenty and sixty-one years. In one case only were both eyes affected from the first; in thirteen cases the second eye became affected after the first; the right eye was affected in thirteen; and

the left in five cases. In three cases one eye was affected with iritis, and the other with retinitis.

The great number of complications in these cases was remarkable. In seven instances, the patient was affected with the so-called condylomata, in four instances there was descematitis, in four instances there was circumscribed deep-seated inflammation of the cornea, in seventeen instances opacity of the lens, and in six instances retinitis. In the majority of instances—in twenty-four patients—there were existing syphilitic affections of the skin and mucous membrane; in the remaining cases there was only enlargement of the lymphatic glands.

The clinical importance of syphilitic iritis consists in its tendency to result in plastic exudation over the region of the pupil, and in adhesion of the iris to the capsule of the lens. Hyperæmia very rarely occurs with this form of iritis. Pain is frequently a very prominent symptom, and was absent in one case only of the thirty-four. The occurrence of nocturnal pain is not a characteristic symptom of this form of iritis.

The treatment of the syphilitic iritis in these cases was exclusively mercurial. Usually inunctions or injections (under the skin of the dorsal region) were practiced. Less frequently mercury was administered internally. Professor Schmidt has never seen any bad results from the injection of corrosive sublimate. In some cases there was marked improvement after three or four injections. In one case an iritis condylomatosa was cured after nine injections. Simultaneous local application of atropine was never neglected. The average duration of the treatment was between five and six weeks; the relapses were cured more speedily, and often these required no constitutional treatment.

With regard to its influence on sight, syphilitic iritis is to be considered as a dangerous affection. Of thirty-seven eyes closely examined after the cessation of every inflammatory symptom, in nineteen only was there even fair acuity of sight. In nineteen patients the acuity was much diminished. Bad results are most frequently produced by condylomata. In two cases the iritis was followed by chronic cyclitis and softening of the bulb.

ART. 160.—*A Simple Method for Removing Cystic Tumors from the Eyelids.*

By J. J. CHISOLM, M.D., Baltimore.

(*Canada Medical Journal*, July.)

It is a modification in the use of the nitrate of silver that Dr. Chisolm has found so effective in the treatment of sebaceous cysts of the lid, and which has enabled him to discard for many years, the tedious, painful, and sometimes dangerous cutting out of such tumors. If the tumor be a sebaceous cyst, located between the upper portion of the tarsal cartilage and the skin, a Desmarre's ring forceps is used as a clamp upon the lid, to shield the ball of the eye from injury, to fix the tumor, and to prevent annoying oozing of the blood. Under this ring-pressure a small opening is made into the cyst, through which its contents are squeezed out. The end of a small silver probe, dipped in nitric acid, is then passed into the cavity, is made to pass over the epithelial lining surface, and is withdrawn. Usually, in its passage into the cavity of the tumor, it cauterizes sufficiently the lips of the incision to prevent any oozing of blood when the clamp forceps is removed. When the cyst is formed by the closure of a Meibomian duct, the better plan is to evert the lid and make the puncture from the conjunctival surface, the caustic being applied as directed. The advantage gained by this modification is in the more certain, thorough, and yet restricted application of the caustic, confining its cauterizing influences only to those portions in which action is desired. The results are in every case satisfactory. No after-treatment is needed.

ART. 161.—*On Orbital Abscess.*

By ARCHIBALD HAMILTON JACOB, M.D., Dub. Univ., F.R.C.S.I., Chief Surgeon to the Dublin Infirmary for Diseases of the Eye and Ear; and Ex-Ophthalmic Surgeon to the City of Dublin Hospital.

(*Medical Press and Circular*, Sept. 4.)

The occurrence of an abscess within the walls of the orbit may be either acute or chronic. The acute form is always the result of orbital cellulitis, or inflammation of the cellular bed on which the eyeball lies, and it is, therefore, attended with very serious inflammatory symptoms and very active symptomatic fever. Its causes are fourfold—viz.: 1. Wounds, with or without impaction of foreign bodies. 2. Exposure to sudden changes of cold and heat. 3. Metastasis, or the deposit of pus in cases of pyæmia, phlebitis, erysipelas, etc. 4. Periosteal inflammation

Mackenzie says that erysipelatous inflammation, spreading from the eyelids to the cellular membrane of the orbit, sometimes terminates in abscess within that cavity or effusion of matter within the orbital capsule. This appears to be one of the modes, perhaps the most frequent but least suspected mode, in which erysipelas of the face or scalp proves fatal. The fatal result, under such circumstances, is generally ascribed to effusion within the head, but may happen without any inflammatory affection of the membranes or substances of the brain being detected after death. In such cases the formation of matter within the orbit sometimes takes place suddenly, at other times slowly and insidiously.

Stellwag von Carion remarks that also orbital abscess occurs not unfrequently in the course of purulent meningitis, from the inflammation passing through the orbital fissures to the loose connective tissue of the orbit, and in such case usually occurs on both sides; and Fischer further observes that it may arise from a local deposit of tubercle.

Symptoms.—Though the formation of an orbital abscess by violence is generally immediate, sometimes an interval of several days may elapse between the injury (if the abscess be traumatic) and the result. The onset commences, especially in the metastatic form, with a rigor. The eyelids become red and distended with serum, and pain in the brow sets in with gradually increasing severity, and generally in paroxysms. When the orbital inflammation is deeply seated and not very intense the swelling of the lids and conjunctiva frequently bears the character of pure œdema. When it is intense or superficial, however, it often appears erysipelatous and is hot, tense, and deep red. In a day or two the eyeball will appear protruded, not always directly forward, but its upward or downward direction will afford an indication of the position of the abscess.

Cellulitis in the advanced stages may be mistaken for panophthalmitis, but the protrusion of the eyeball will at once indicate the orbital infiltration. It may also be confounded with periostitis of the orbit, but this condition can readily be diagnosed by pressure. If pressure on the eyeball itself produce severe deep-seated pain there is no doubt of cellular inflammation; if not, and if pressure on the margin of the orbit indicates tenderness, the periosteal inflammation will be recognized.

The diagnosis of an abscess in the early stage before marked displacement of the globe takes place, or in case the purulent deposit be situated directly in the axis of the orbit is by no means easy. The chemosis and lividity of the lids and conjunctiva and the violent paroxysmal pain are likely to confound the disease with one of violent ophthalmitis. If the case be one of abscess the conjunctiva is rather œdematous than vascular, and the symptoms of corneal and iritic inflammation, which are always present when deep-seated inflammation of the eyeball exists, will not be developed.

At first the protrusion of the globe may be insignificant, and unless by careful comparison side by side with the other eye, may be overlooked, but afterwards

it becomes marked and sometimes goes to the extent of dislocating the eyeball. If the protrusion be to one side the position of the cellulitis or of the consequent abscess will be indicated, but if the direction of the eye be forward the pus is probably deep behind the eyeball. Concurrently with this protrusion the sight is impaired by the tension of the optic nerve, till at last it is, for the time being, totally lost.

The pain of a simple orbital abscess is usually dull and deep-seated, and only becomes violent when the extrusion of the eye is extreme.

Treatment.—In a few cases, especially of the more chronic form of abscess, absorption of pus and resolution may take place, but in the great majority of instances the abscess will point, usually forcing the conjunctiva of the palpebral sinus out before it before discharging itself. If the case appear likely to take this course it will be well to encourage it by poultices and mild saline cathartics.

If the patient has suffered violence the possibility of impaction of a perforating body must be remembered, even if the external injury be apparently very slight, and search should be made for an external opening, be it ever so small.

If the abscess be caused by the entry of a foreign body there is a direct exit for the purulent matter, and, the source of irritation being removed, it will end in resolution, like an abscess elsewhere.

But it may come spontaneously, or from a blow followed by extravasation of blood, but without puncture; and in this case, of course, considering the danger of its pressing backwards towards the brain, or causing necrosis of the orbit, an incision for its exit should be made at an early stage, exploration having been previously made, if there be any doubt of the existence of pus, with the grooved needle.

This course becomes necessary, also, when the eye is in serious danger, either from the pressure or from being extruded outside the natural covering of the lids.

If the pus should not be evacuated it will probably find its way slowly, and with great suffering, and present forward at the base of the chemosed lid, or perhaps under the conjunctiva. When the pus is discharged the eyeball partly resumes its natural position, but frequently the puckering of the muscles in the orbital cicatrix produces a partial strabismus.

As soon as, by careful examination, fluctuation can be detected, or before it, if the protrusion be great or cerebral symptoms threaten, an incision should be made. In acute abscess this must generally be affected through the lid, but if the swelling be inconsiderable the palpebral sinus is, of course, a more desirable locality.

A previous exploration with the grooved needle should be made in any doubtful case, in order that the depth to which it may be necessary to go with an incision and the exact situation of the abscess may be determined before large openings in so delicate a situation are ventured on. If the pus be located deep behind the globe the lower palpebral sinus will be the proper place for an incision, as it is easier to reach and allows the lowest channel for the exit of the pus. The threatening of cerebral symptoms or of destruction of the eye will be the signal for immediate evacuation of the pus, and the general instruction will be to allow its escape at as early a period as possible. If the wound be external a large soft poultice should be applied, and the wound kept from healing by the occasional use of a probe. If necrosis be suspected search should be made for a denuded sequestrum, and it should be removed by a long forceps, such as that employed for removing foreign bodies from the ear. If the suppuration be profuse or continued, support for the system will be demanded, and must be maintained by means of beef-tea and wine, while the constitutional irritation must be kept down by cooling drinks, saline purgatives, and perfect rest. If the cellulitis be developed, and before the deposit of pus, a few leeches to the temple or (if erysipelas be feared) to the mastoid process, will be useful in alleviating pain, and occasionally in averting suppuration.

ART. 162.—*On Wounds of the Eye.*¹

By HENRY POWER, M.B., F.R.C.S., Ophthalmic Surgeon to St. George's Hospital.

(*British Medical Journal*, November 16.)

The author referred to the necessity of making an accurate diagnosis in every case. The symptoms and treatment of the following were considered *seriatim*: 1. Foreign bodies irritating the palpebræ and conjunctiva or becoming imbedded in the cornea. 2. Punctured wounds caused by a cutting instrument, involving the middle or margin of the cornea, or the sclerotic or lens. 3. Severe blows which do not rupture the globe. 4. Rupture of the sclerotic. 5. Burns caused by fire inducing symblepharon; or by lime, chiefly affecting the cornea. In the treatment Mr. Power advocated the general principles of surgery, insisting on the value of rest. In rupture of the sclerotic, where vision is entirely abolished, he preferred extirpation of the globe to abscission. The President inquired how strychnia acted in amaurosis, and how sympathetic ophthalmia was set up. Mr. Power valued strychnia as a nervine tonic; he explained how sympathetic ophthalmia arose. The question between extirpation and abscission depended upon the state of the deep-seated structures; extensive deep injury necessitating the former, minor anterior injuries the latter operation.

ART. 163.—*A Chip of Iron lodged in the Eye—Extraction of the Lens with the foreign body imbedded in it—Recovery.*

Under the care of Mr. GEORGE LAWSON, at the Royal London Ophthalmic Hospital, Moorfields.

(*Medical Times and Gazette*, November 23.)

A boiler-maker applied to the Royal London Ophthalmic Hospital on the morning of September 8, stating that on the previous day, whilst cutting a piece of iron with a hammer and chisel, a minute fragment of the chisel flew off and struck the left eye. He was unable to say whether it had penetrated the globe; all that he could tell was that the piece of iron was very small. Since the accident the man had been in constant pain and the eye was red and irritable. On close examination a minute mark was visible on the cornea, showing where the foreign body had struck: and on dilating the pupil with atropine the lens was seen to be growing rapidly cataractous, and a small rent could be detected in the lens capsule.

It was thus evident that the chip of iron must have penetrated the globe, for it was too small to inflict such a blow on the eye as would cause, from contusion only, a rupture of the lens capsule and cataract. The important question now to decide was, What was the best mode of treatment to be adopted? The sight of the eye, considering the diffused opacity of the lens, was good, the pupil acted well, and the field of vision was complete. It was very desirable to save the eye if possible; but at the same time it would be better to sacrifice the damaged eye rather than run the risk of losing the sound one from sympathetic ophthalmia, a result which might be predicted almost with certainty if the foreign body were allowed to remain in the globe. The man at the time was not prepared to come into the Hospital, but he agreed to do so on the following Friday (September 10), when he was accordingly admitted. The eye was then less irritable than when first seen, but the lens was more opaque.

Before operating Mr. Lawson remarked that it was quite possible, and, from the small amount of irritation present, it was probable, that the foreign body was imbedded in the lens. He proposed, therefore, to extract the lens by a

¹ Read at a Meeting of the International Ophthalmological Congress, August 1st.

free corneal section, and if he failed to remove at the same time the chip of iron, he would conclude that it was lodged in some deeper part of the eye, and at once excise the globe. Fortunately for the man, the result proved that the foreign body was imbedded in the lens, for on completing the corneal section—the lens capsule having been already ruptured by the accident—the lenticular matter immediately began to escape through the wound, and the chip of iron was seen in the anterior chamber surrounded by soft lens substance. A pair of fine forceps was then introduced through the section, and the foreign body drawn out. The rest of the lens was then gently pressed through the corneal wound, and the operation thus satisfactorily concluded. After the operation the patient did well, and left the Hospital on September 20 with the prospect of a good and useful eye.

ART. 164.—*Diseases of the Ear.*

By Professor SEELY, of Cincinnati.

(*Medical Press and Circular*, October 2.)

Professor Seely says, in the *Clinic*, that in the treatment of otorrhœa, both in children and grown persons, the chief desideratum is the thorough cleansing of the ear. He agrees with all men of experience that syringing is by no means always sufficient; in fact, many times it seems to be *absolutely injurious*. The secretion can be blown out by inflation, either by the catheter or by Politzer's method, or washed through the Eustachian tube into the throat by filling the ear with water and making pressure on the tragus, or washed the other way by passing the water through the meatus, inflating at the same time that the patient swallows, while the head is inclined at the same time far to the diseased side. The use of the probe and cotton will be found of great service also, especially when the parts need to be dry for the application of remedies, as in polypus and polyposid conditions of the membrana tympani. The professor adds:—

"While all the astringents are used for otorrhœa I would especially recommend zinc, both the sulphate and acetate, and nitrate of silver. My advice is always to begin with a weak solution ($\frac{1}{2}$ to 3 grs. ad f3j, twice or three times daily), not only because it is often sufficient, but because a stronger solution may cause pain and thus terrify the patient and prevent further applications, and also actually do harm instead of good, if not preceded by a weak solution to accustom the parts to the contact. I need not say that frequently it will be necessary to change from one astringent to another.

"We have in otorrhœa a larger or smaller perforation of the membrana tympani, the purulent fluid coming from the middle ear. Certainly neither parent nor doctor in his right mind would allow such a stinking discharge to run on from any other part of the body, and in a purely sanitary point of view its neglect is beyond comprehension.

"Again, how can it be expected that the ear will become sound until the perforation or perforations (as they may be multiplied) have healed? And, of course, the longer the discharge continues the more difficult is it for this to occur. Every one should then put before him, as the goal to be reached in the treatment of otorrhœas in children, *the healing of the perforations*.

"So great importance is attached to the soundness of the drum-head that both many patients and not a few physicians are unwilling to admit that there is a perforation.

"Again, in cases of very great deafness with discharge, the reigning idea seems to be that the membrana tympani is *totally destroyed*.

"While the membrana tympani is of very great value in an acoustic point of view, it also plays an all-important rôle in protecting parts of still more value, the soundness of the two fenestral membranes being of still greater importance. Bear these points in mind, and all the mystery of hearing with a perforated membrane, of very bad hearing with a very extensive loss of the membrane, capable of being made very good, will be solved.

"If a perforation remains unhealed, the ear is left in an *unhealthy* condition, and you can never tell when the disease may reappear. Then remember the *membrana tympani* in its tutaminal function, its *protecting rôle*, and endeavor to make it perfect."

In juxtaposition with these views it may be well to give those expressed lately by Dr. B. St. John Roosa in a lecture on circumscribed inflammation of the auditory canal, published in the *New York Medical Record*. He says:—

"Circumscribed or furuncular inflammation of the external auditory canal is quite a common affection, and I imagine there are many more cases of this affection than is shown by the statistics of the writers on otology, inasmuch as it is not a serious affection in its consequences, and very often gets very little treatment. The subjected symptoms of a furuncular inflammation of the external auditory canal are pain and a sense of fullness in the ear. There is scarcely ever any *tinnitus aurium*, for the reason that the circumscribed swelling makes no pressure upon the *membrana tympani* and *ossicula auditus*, which pressure is usually the cause of the sounds in the ear described under the term of *tinnitus aurium*. On examination we find roundish isolated swellings that are very tender and sensitive to any contact. Even the touch of a delicate probe will sometimes cause patients to make an exclamation of pain. These swellings are not usually very red; for the integument is quite thick in the outer portions of the canal, and this is the usual side of the affection. We often find two points of pain and swelling in the same ear, and they are very apt to occur in succession, so that we are by no means sure of being done with a case because one furuncle is cured. The swellings that occur in the lower portion of the canal, the bony portion, which is two-thirds of the whole length, are not usually circumscribed, but diffuse, and are therefore to be classified under that head. They are more painful than furuncles, from the fact that the integument is thinner and closely adherent to the periosteum, so that such an inflammation is analogous, in the fearful pain which it occasions, to a paronychia, and requires the same treatment—that is, a free incision through the tense and swelled structure down to the bone. I should also say that the pain experienced in swallowing, chewing, and the like motions, from the pressure of the upper jaw, through the *glenoid fossa*, upon the swelled auditory canal, is one of the symptoms of which patients with either the diffuse or circumscribed forms of external otitis complain very much.

"The causes of furuncular inflammation of the outer ear are not very plain. Like furuncles in the other parts of the body they are often an evidence of a deteriorated condition of the general system; but again, they occur where the subjects are in good general health. In such cases some local irritation by mechanical or chemical means, such as have been mentioned in the discussion of diffuse inflammation, is probably the cause.

"The general treatment will be determined by the condition of the patient. The local is simple; a deep incision should be made into the swelling, if any one very tender point can be found. It is a matter of indifference as to whether suppuration has or has not occurred in deciding as to the expediency of an incision. It should be made as soon as the case is made out. Leeches do very little good in furuncular inflammation. After the incision, the ear should be douched every fifteen minutes or half an hour, by means of Clarke's ear douche, until the pain is relieved, when it may be used at intervals. The ear should also be cleansed by means of a syringe and the cotton-holder of which we make so much use in aural therapeutics.

"The thorough cleansing will usually relieve the impairment of hearing caused by the swelling and closure of the canal, while the incision and douche will cut short the pain. Each new furuncle is, of course, to be healed in the same way."

ART. 165.—*On the Removal of Foreign Bodies from the External Ear-passages.*

By Dr. JOS. GRUBER, of Vienna.

(*Allgemeine Wiener Medicinische Zeitung*, 42 and 43, 1872.)

"As aural surgeons owe more to exact investigation than to empiricism, they have been convinced that the removal of foreign bodies from the external ear-passages is almost always to be aimed at through simple syringing of the outer meatus, and that only in very rare cases ought recourse to be had to special apparatuses or instruments for this purpose.

"The outer ear-passage is so formed that when foreign materials are introduced therein after the usual manner—generally, as is well known, in play with children, and with medicinal and other purposes with adults—they do not penetrate very deeply, and lie so loosely in the canal that they may be forced out simply by the action of a stream of water.

"The lumen of the external meatus is most narrow at the part where the cartilaginous portion is fixed to the long portion. In consequence of this constriction, the introduction of large bodies into the deeper segment of the canal is attended with difficulty; besides this, the axis of the external meatus undergoes an angular deviation in which the apex of the angle corresponds to the above-mentioned constricted part. In these and other minor peculiarities due to the anatomical conformation of the organ, is to be sought the reason why large foreign bodies rarely pass beyond the cartilaginous portion into the deeper segment of the auditory canal, and therefore can, in the majority of cases, be quite readily removed.

"Although syringing was recommended by old authors as a very good proceeding for the removal of foreign bodies, and in more recent times it has been loudly and repeatedly urged in all works on otiatrics that the removal of foreign bodies should be attempted through properly executed injections, and *not through extraction proceedings*, yet every year do we light upon a really terrible number of cases in which not only were fruitless attempts made at removal of the foreign body, but in which, with the greatest harm to the patients, surgeons attempted to remove these bodies by means of various instruments. With this object, hair-pins, forceps, and even scissors have been used in a most barbarous manner; and though in the most favorable cases, namely, those in which the surgeon succeeded in removing the foreign body—this result might have been attained in at least a much more simple and elegant manner, yet, alas! must it happen in other cases—and these, as has been stated, are always terribly numerous—that the patient pays for the excessive zeal of the operator in unnecessary suffering, and not unfrequently in some life-threatening malady.

"It is a known fact that the removal of foreign bodies from the meatus is generally the more difficult the greater the number of attempts that have been previously made; for, with every fresh attempt at extraction, is the foreign body—especially with children, who mostly are very unruly—pushed in much more deeply, the parts are more and more irritated and injured, the walls of the canal swell and are inflamed, and the canal itself becomes constricted. The more advanced are these bad results the more difficult does the removal of the foreign bodies become. The patient can bring no more acceptable intelligence to the experienced aurist than the assertion that he has not hitherto submitted to any attempts for the extraction of a foreign body from the ear; whilst, on the other hand, the complacent statement that everything possible has been tried, will indeed sound very unpleasantly.

"Even in cases where failure has attended attempts at extraction, many of which had been made on patients under the influence of chloroform, have I and others, by simply syringing of the external meatus succeeded in removing the foreign body. In this, as in all other manipulations of a like kind, the most experienced hand and the most intimate knowledge will obtain the best

results. Syringing of the meatus, when done well and with a view to results, is by no means so simple and easy a proceeding as is generally supposed, and considerate operators will agree with me when I assert that this manipulation in order to be properly performed requires as much practice as catheterism of the Eustachian canal; and that for the attaining of the object in view by means of syringing, the surgeon will be required who is most intimate with the anatomical conditions of the ear, and who is able to make practical use of this knowledge.

"I consider in general the advantage attending the method of removing the foreign body from the meatus by injections, over the removal by extraction instruments of any kind to be so great that, relying on conclusive observations, I have for some years past—even in cases where on the first examination the state of the meatus, either in consequence of previous attempts at extraction, as is most usually the case, of the manner in which the body was introduced, or of resulting inflammation, is found to be quite unfavorable for such a proceeding; and when besides the foreign body is not likely, in consequence of its physical or especially of its chemical properties, to act injuriously on the parts and the inflammation set up by its presence is not such as to indicate its immediate removal—advised that this foreign body should be left in the ear until the concomitant inflammatory symptoms have ceased, and then, when the external ear has been brought to a better condition, that an attempt should be made to remove the body by simple syringing.

"Into the right meatus of a boy eleven years of age, and who had previously had 'a discharge from the ear,' his school companions thrust a carraway-seed, and afterwards pushed it further in with a lead pencil. Soon afterwards this ear became painful, and the patient applied to a medical man, who, after some fruitless attempts at extraction, prescribed a sedative lotion for application to the parts around the ear. Five weeks later the boy came under my care. He was then much reduced and feverish. The walls of the right meatus were wonderfully swollen and inflamed, and the lumen of the passage was much contracted and filled with exudation, after the removal of which a dark-brown body could be seen far down, surrounded by the swollen soft parts of the meatus. This body lay very deeply, either on the membrana tympani, if such a structure still existed, or probably with its inner end thrust beyond this part, and one could readily make out that this was the imported carraway-seed.

"Syringing of the meatus for the purpose of removing this body must, under the above described conditions, have been quite ineffectual; so, in the first place, I restricted myself, according to the theory developed above, to the removal of the inflammatory phenomena, so that when once the swelling of the walls of the meatus had disappeared and the canal itself had become wider, an attempt might be made to withdraw the body by means of injections. With these objects in view I prescribed a solution containing acetate of lead and of morphia (one grain of each to one ounce of water), and ordered cold applications behind the ear and cleansing of the meatus by injections of clean lukewarm water to be made once every day. During each injection some of the water flowed from the nose, a proof that the membrana tympani was at least perforated.

"After the inflammatory symptoms had yielded the foreign body could be more distinctly perceived; but, as its removal by syringing the meatus was not possible, suitably cut pieces of compressed sponge were introduced in order to dilate the contracted auditory passage, and, in order to induce shrinking of the foreign body, a solution of sulphate of zinc (5 grains to an ounce of water) was dropped in. At last, after the foreign body had been in the meatus for three months, it was removed during simple syringing with the return current of water. Suppuration had quite ceased about six weeks before, although the foreign body was still present in the ear. After the removal of the seed it was found that the membrana tympani had undergone cicatricial degeneration, but that there was no perforation. This latter lesion had healed with the foreign body present in the ear.

"In order to find, in those cases where the foreign body cannot be easily re-

moved from the meatus by syringing, expedients which may render possible the attaining of this object, it is imperatively necessary that the mode of action of this operation should be described. The injected water will not remove the foreign body unless it penetrates deeply into the passage between the body and the walls of the meatus. The body is then acted upon by a force working from within, and is thus driven to the external orifice of the meatus. When the fluid does not come upon the foreign body from within it cannot force it outwards, and it may readily happen, when there is no deep-seated obstruction to prevent it, that the body may, by the stream of injected water, be forced still further along the canal.

"It happens, indeed, in several cases that the injected water forces the foreign body into a position which is more suitable for its removal, so that the water passes beyond the inner end of the body, and from thence acts upon it in a backward direction. In all such cases the foreign body is not firmly wedged in, and the surgeon may attain his object through syringing.

"The case is different when the foreign body is fixed at any part of the meatus and the injected water has no power to place it in a more suitable position. In such cases, provided the most copious anatomical knowledge has been brought to bear on the attempt by syringing, the surgeon should endeavor to render removal possible by other means before having recourse to extraction instruments.

"If one considers that in difficult cases of this kind every attempt at extraction results in more or less injury to the parts of the meatus, and frequently in inflammation and its consequences, he will regard extraction as a last resource, and as an acquisition to practical resources that has not been too much underrated.

"Professor Voltolini recommends partial destruction of the foreign body, when this is combustible, by galvano-caustic. The remains can then be readily removed. There can be no doubt, and the cases reported by Professor Voltolini give sufficient proof of this, that in many cases this method may be practised with advantage.

"It should of course be applied only in suitable cases, and the surgeon should make it his aim to burn the foreign body from its centre, so that the parietal structures of the meatus may remain free from any injury. When I speak of suitable cases I mean those in which the foreign bodies are known to be bad conductors of heat, otherwise the heat might be transmitted to the soft structures of the meatus and cause harm. The surgeon in cases of foreign bodies in the meatus has generally to deal with bad conductors of heat, as caraway-seeds, beans, peas, fruit-kernels, etc., which may be partially burnt without transmitting heat to the walls of the meatus.

"The proceeding devised by Lowenberg consists in applying to the foreign body in the meatus another long body from without, the end of which is tipped with some good adhesive mass (glue). The two bodies are thus joined together, and that previously passed into the meatus may be extracted. Lowenberg asserts that he has succeeded in removing in this way a foreign body from the meatus; the possibility of this is not to be doubted, and there are a certain number of cases in which this proceeding may be applied with advantage. It seems to me to be especially adapted for those cases where the foreign body has not been fixed too deeply in the meatus.

"As I have already stated, my usual practice is not to attempt to remove at once any foreign body the presence of which is not particularly prejudicial to the meatus, when this body cannot be withdrawn by syringing, but rather to wait until such time as its removal can be easily effected. In the meantime I endeavor by treatment to repress any bad results, to moderate any morbid phenomena that may be present, and also by acting on the body itself, if such action be in any way possible, in order so to modify its physical characters that its removal may be rendered more easy.

"Thus I am in the habit of acting on all leguminous foreign bodies forced into the meatus, by applying to them fluids that may produce a shrinking of such bodies. When the body shrinks, a free space is then established between it and the walls of the meatus, which, however small it may be, is still sufficient to

enable me to place the body in a more suitable position by means of the injected stream of water, or to act upon it with the vis à tergo of the recurrent stream.

"Since, as has been stated above, the foreign bodies which most frequently require to be removed from the meatus are legumes, I have taken the trouble to study the action of various astrigent fluids on different kinds of pulse. It is self-evident that in these investigations only such fluids should be used as can be introduced into the meatus without doing much harm. I tried solutions of alum (five grains to an ounce), of sulphate of copper (one grain to an ounce), tannin (five grains to an ounce), and liquor calcis. In these solutions leguminous seeds were placed, and allowed to remain for eight days.

"It was found that in lime-water and the solution of zinc alone did these bodies become smaller; with the other solutions there was no reduction in their volume.

"In cases where it is necessary to produce shrinking in foreign bodies of this kind, the most suitable agents for this purpose, so far as we at present know, are a weak solution of zinc, or lime-water, which should be dropped into the meatus several times during the day, so as to act upon the foreign body and facilitate its removal at a subsequent period.

"I would take this opportunity for pointing out that syringing the ear-passages of children under the age of twelve months is most properly carried out by drawing the pinna laterally and downwards, and not, as with adults, laterally and upwards. When in syringing the ears of suckling children, the surgeon does not draw the pinna upwards, he produces a condition quite opposite to the one desired. Instead of dilatation of the meatus, which can be readily produced in delicate children by drawing the pinna upwards, the canal is rendered narrower.

"In such individuals the passage may be most readily dilated, if the pinna be taken at lower third, and then be gently drawn laterally and outwards."

ART. 166.—*Non-Purulent Catarrh of the Middle Ear.*

By W. B. DALBY, F.R.C.S., M.B., Cantab., Aural Surgeon to St. George's Hospital.

(*Medical Times and Gazette*, October 19.)

At a meeting of the Royal Medical and Chirurgical Society, on Oct. 8, Mr. W. B. Dalby read a paper on "Non-purulent Catarrh of the Middle Ear." He commenced by stating that the object of the communication was to direct attention—firstly, to the several conditions under which the Eustachian tubes become so obstructed as to prevent the free passage of air from the pharynx into the tympana; secondly, the various effects which follow catarrh of the tympana; and thirdly, the treatment adopted for these affections of the ear. The notes of cases treated at St. George's Hospital and elsewhere, extending over a period of three years, formed the basis of the paper, and there was an appendix containing an abstract of twenty cases which were considered typical of the disease under notice. When the Eustachian tube only was involved, the appearances of the tympanic membrane most frequently noticed were—an increased inward curvature, unusual prominence of the short process of the malleus, and a tilting inwards of the handle of this bone. The chief element in treatment was regular inflation of the tympanum, on Politzer's method, until the catarrhal condition had subsided, when the hearing was completely restored. In the next class of cases—viz., when the mucous membrane lining the tympanum was the seat of catarrh—the changes noticed on examination of the tympanic membrane were alterations in curvature, opacities, thinning of the membrane generally as well as in circumscribed spots, and calcareous degeneration. The author considered that these should be regarded merely as the effects of catarrh, and not, as in the classification adopted by Mr. Toynbee, separate diseases. Such changes were not of themselves the cause of deafness; the origin of this will be found to be behind the membrane, in the form of accumulations of mucus, and it is to the softening and removal of these that the treat-

ment must be directed. With this view the injection of alkaline solutions into the tympanum was practised, either by means of the Eustachian catheter, or forced into the cavity of the tympanum with the aid of a Politzer's bag, while the patient performed the act of swallowing—some of the fluid thus used having previously been injected from a glass syringe into the inferior nares of the side to be acted upon. In a large proportion of the cases very considerable improvement in hearing followed; but the author stated that in many there were no appreciable results, for as it was impossible to judge of the precise changes that had taken place behind the tympanic membrane from its appearances, it was difficult to predict what might be the effect of treatment. In some instances an incision was made into the membrane, and the mucus evacuated through the cut by passing a stream of air through the Eustachian tube. Very good results followed this proceeding, but it was only done where more simple means had failed, and there was ample evidence of the mucus being in a fluid state.

ART. 167.—*On the Treatment of the Diffused Form of Inflammation of the External Auditory Meatus.*

By W. B. DALBY, F.R.C.S., M.B., Cantab.

(*The Lancet*, August 24.)

The diffused form of inflammation of the external auditory meatus, Mr. Dalby writes, differs from the circumscribed, inasmuch as it does not terminate in abscess, and, as its name implies, in being diffused throughout the integument of the canal. Since the outer cuticular layer of the tympanic membrane is continuous with that lining the meatus, there is always a certain amount of risk lest this membrane become implicated, and for this reason this affection is more serious than the one considered in the preceding article. It is not strictly correct to describe it as being of two kinds—viz., acute and chronic—because, although the attacks are acute at one time and chronic at another, their gradations so insensibly pass into one another that an artificial division is practically useless. Children are especially liable to it; and as it is generally neglected among the poorer classes, with them it is not unfrequently the origin of a perforation of the tympanic membrane. It often succeeds the exanthemata, although not nearly so commonly as purulent catarrh of the middle ear spreading along the mucous membrane from the throat. The diffused form of inflammation of the external meatus commences with a feeling of uneasiness and itching, just within the orifice, which very soon becomes red, tender, and swollen; and there is pain during mastication. These symptoms increase in severity, until, with the appearance of a discharge, the pain ceases, and the swelling gradually subsides.

Such is briefly an account of its acute stage, which usually occupies a week or ten days. The treatment is palliative—viz., leeches and fomentations; but as this affection does not occur to persons in a good state of health, the diet should be attended to, and a change of air, if possible, be resorted to, for it is most desirable not to let this condition become a chronic one, as it is most apt to do.

ART. 168.—*On the Treatment of Abscesses in the External Auditory Meatus.*

By W. B. DALBY, F.R.C.S., M.B., Cantab., Aural Surgeon to St. George's Hospital.

(*The Lancet*, August 24.)

In his lectures on diseases and injuries of the ear, Mr. Dalby states that one of the most troublesome affections of the external auditory meatus is the formation of small abscesses, which may occur at any situation in this canal. They do not seem to be confined to persons of any particular age or constitu-

tion. The first symptom is pain in the ear, which in a few hours becomes so acute as to put sleep out of the question. After twenty-four hours or so, the meatus in its entire extent will be swollen, sometimes the whole external ear will be enlarged, red, and tender to the touch. The movements of the jaw occasion great pain. There is more or less deafness, in proportion to swelling. If the patient be seen within a day or two of the commencement of the attack, the greatest benefit may be afforded by two or three leeches placed in front of the tragus, just over the articulation of the lower jaw, and followed by fomentations: in this way the affection may be cut short occasionally. When the leeches are applied, the meatus should be filled with cotton wool, to prevent the blood getting in. If not checked in the early stage, the state of things described will increase in severity for several days, and, on examining with a probe, one point will be felt to be far more acutely tender than any other part of the meatus. The whole meatus is so swollen that it is not possible to see the position of the abscess with a speculum. This point having been distinctly localized, the sooner an incision is made into it the better, as by this the tension of the parts, to which the agonizing pain is due, is relieved. The best knife to use is a curved, sharp-pointed bistoury, and a free incision should be made as it is withdrawn. After this the patient gets well in a few days. Very frequently, however, he is no sooner well of one abscess than another commences to form, and all the suffering has to be endured again. It is this recurrence that makes the affection such a troublesome one. Sometimes six or seven abscesses will occur successively in the same patient, obliging him to remain in the house for as many weeks, and causing an amount of suffering altogether disproportionate to the gravity of the illness. In recognizing this occasional peculiarity in these cases, caution will be observed in promising a patient that he or she will be well within a certain time.

ART. 169 — *Foreign Bodies in the Meatus.*

By W. B. DALBY, F.R.C.S., M.B., Cantab., Aural Surgeon to St. George's Hospital.

(*The Lancet*, August 24.)

With regard to the removal of foreign bodies in the meatus, Mr. Dalby remarks, two points should be borne in mind. In the first place, that as the meatus is lined by skin continuous with that of the auricle, provided the edges of the object are not sharp, they may remain there for an indefinite period and do no harm. In the second place, that very considerable injury is often done by injudicious efforts which are made to extract them. It is not, however, to be understood from this that no attempts should be made to remove them. But no instrument should be used, excepting when, with the mirror on his forehead, light is reflected down the meatus, and the operator, with both hands free, can see what he is doing. The first thing to be done in any case is to syringe the ear; and in doing this the nozzle of the syringe, which should be fine and probe-pointed, is to be kept at the upper part of the meatus, so that the returning stream of water may bring it away. This not happening, if it is near the external orifice, or at any rate not more than halfway down the meatus, and especially if it be of a soft nature or of an uneven shape, it may often be laid hold of by a pair of ring polypus forceps. A loop of silver wire may sometimes be passed beyond it, and by pulling at this it may be moved outwards; or the noose of a Wilde's snare may be used in the same way, and the body sometimes by this means be secured and extracted. Young children must have chloroform, not because they are being hurt, but because they will not keep quiet; and without this it is impossible to do any good. Adults will sit still in a chair, as they are not put to any pain. If the foreign body cannot be removed in one of these ways, or if it have passed more than halfway down, any further attempts will assuredly only have the effect of sending it further in, and will frequently result in a rupture of the tympanic membrane. The ear should be occasionally syringed, and the foreign body will gradually approach nearer and nearer the

orifice, until it finally drops out. It may be weeks, or even months, before this happens, but if it be left alone, it will do no harm. If the tympanic membrane be unfortunately ruptured, this is generally followed by suppuration in the cavity of the tympanum, a discharge from the ear lasting a long time, and more or less permanent deafness. After such an accident, if there be much swelling of the meatus and pain, a few leeches in front of the tragus, followed by fomentations, will be advisable. Anything more energetic than the treatment suggested in the case of foreign bodies in the meatus is thought more likely to prove harmful than beneficial, notwithstanding the numerous instruments that have been brought forward, it is said, with the object of getting behind the body and removing it.

ART. 170.—*Polypus of the Ear and Perforation of the Membrana Tympani, and the Instruments used in the Diagnosis and Treatment of Diseases of the Ear and Throat at the Ear and Throat Infirmary, Birmingham.*¹

By CHARLES WARDEN, M.D.

(*British Medical Journal*, August 24.)

Dr. Warden, in describing the different varieties of polypus, exhibited a modification of Toynbee's ring-forceps for their extraction, designed by himself. In enumerating the various causes of laceration of the membrana tympani, he gave a description of an artificial drum for the treatment of perforation, whereby the hearing power was greatly increased in many instances of almost total deafness, enabling the sufferer to hear ordinary conversation at moderate distances. The little apparatus consisted of a hollow cone of India-rubber cut into the shape of a well-known flower (the *Cyclamen Hederæfolium*), one of the Primulacæ, from which Dr. Warden took the idea. It was made of various sizes, to fit the meatus auditorius of old and young. It had no sharp border to injure or irritate the mucous membrane on the sides of the ear-passage; and the base of the cone was slit up towards the apex at intervals of about the thirty-second or sixty-fourth part of an inch from the apex. Each-flap or division acted as a valve, and thereby exactly adapted itself to the interior of the meatus, and rendered the tympanum a perfectly closed cavity from without, at the same time restoring the structures concerned in the sense of hearing as nearly as practicable to their original condition.

ART. 171.—*The Labyrinth of the Ear.*

By H. KNAPP, M.D.

(*The New York Medical Record*, June 1.)

At a meeting of the Medical Society of the County of New York, Dr. Knapp delivered a very interesting lecture upon "The Labyrinth of the Ear, its Structure, Functions, and Diseases." After a brief explanation of the nature of sound, as produced by the vibration of ponderable bodies; of the distinction between *noises*, produced by irregular vibrations, and *musical tones*, produced by rhythmically recurring ones; and of the three elements of *pitch*, *intensity*, and *quality* (*timbre*), which characterize every tone—the first due to the frequency with which the sound-waves fall upon the ear; the second, to the excursion of the vibrating particles; and the last, to the combination of the higher harmonics, or "over-tones," with the fundamental note, as demonstrated by Helmholtz—the speaker came to the description of the auditory organ as an apparatus adapted to the perception of sound, and to the discrimination of its several characteristics. Modern research has been so active in this field, that the mechanical explanation of audition, only a few years since one of the

¹ Read before the British Medical Association.

most difficult and obscure of physiological problems, might now be considered among the clearest and best settled.

Assuming the familiarity of his audience with the anatomy of the external and middle ear, and of the osseous framework of the internal, the doctor confined himself to a minute account of the membranous labyrinth, referring particularly to the late observations of Waldeyer and Gottstein, some of which he had himself confirmed. As we can mention only a few points of his crowded discourse, we must further assume that our readers know so much of the membranous labyrinth as may be learned from recent anatomical text-books, such, for example, as the last English edition of Quain.

The mode of connection between the utricle (common sinus) and the sacculle, has long been a matter of doubt. Of late, however, what seems to have been an old discovery has been made anew, and it is demonstrated that from either sac there proceeds a slender duct, the two uniting in a single one (after the manner of the cystic and hepatic, in the common choledoch) which passes through the aquæductus vestibuli, to open into the so-called arachnoid cavity. Thus the endolymph is in direct connection with the fluid occupying the space between the arachnoid and the dura mater. Furthermore, the loose areolar tissue surrounding the filaments of the auditory nerve, as they pass through the cribriform plate at the bottom of the meatus internus, permits a tolerably free communication between the perilymph and the sub-arachnoid fluid. It is not surprising, therefore, that the auditory nerve, expanded on a membrane between the endolymph and the perilymph, should so speedily respond to changes of intracranial pressure.

The terminal filaments of the vestibular nerve, being connected with the otoliths of the sacs and the ampullæ—bodies apparently ill adapted to rythmical vibration—would seem intended for the perception of noises. [This is what we should expect from finding the vestibule, with its suspended otolith, as the most rudimentary form of the ear, serving, probably, to warn the animal, of approaching danger by the noise attending it. The intensity of the sound is, no doubt, rudely measured by the degree of commotion into which the otoliths are thrown, though in the higher animals this is more perfectly accomplished by the muscles of the tympanum. Is it not possible that the hair-like processes, extending beyond the ear-sand into the endolymph, may, by vibrating as free rods, also give some perception of pitch, though far less delicate and extended than that furnished by the cochlear apparatus?]

Coming to the more complicated cochlea, it will be remembered that the membrana basilaris, which extends from the edge of the bony lamina spiralis to the cochlear wall, and upon which rests the organ of Corti, is divided into an inner *zona tecto vel arcuata*, covered by the arches formed by the rods of Corti, and an outer *zona pectinata*, characterized by its coarse transverse striæ. Now these striæ are found to be strings imbedded in the substance of the membrane, each being attached at its outer extremity to the spiral ligament, and at its inner to the foot of one of the club-shaped ciliated cells which, in a fourfold series, lean upon Corti's rods—the very cells to which have been traced the terminal filaments of the cochlear nerve. As the *zona pectinata* increases in breadth from base to apex of the cochlea, these strings are of regularly varying length; they appear also to be of different thickness; and if we suppose, with Todd and Bowman, that the ligamentum spirale is really muscular, it is conceivable that they may vary in tension, being *tuned* by this "cochlear muscle." The strings are, doubtless, isolated from each other by a non-elastic "cement," which allows each to vibrate without affecting its neighbors.

Consider that there are some three thousand of these strings, each connected with its own ciliated cell, and communicating its slightest tremor to its special nerve-filament, and we have a resonance-apparatus manifestly delicate enough to discriminate all the shades of tone the ear is able to appreciate. In obedience to the familiar law of resonance, a given note will determine a responsive vibration in that particular string of the whole three thousand which is tuned in unison with it, and so send notice of its exact pitch to the brain. A chord will throw into vibration several strings, each sending its separate message to

its own brain cell; and the combination of these independent sensations will give the sense of harmony. This, therefore, requires a kind of intellectual process for its appreciation. Quality, as we have seen, is but another name for harmony, and must be appreciated in the same way; the *timbre* of a tone being determined by the number and relative force of the several harmonics that compose it.

However perfectly an organ may appear adapted to a certain function, still any theory of its function based on structure must be considered merely speculative until verified by experiment. Now the inner ear is removed, not less by its delicacy than by its inaccessibility, from the possibility of satisfactory direct experiment: but here, fortunately, we may take advantage of pathological conditions—nature's experiments—which often guide us as surely as any we might contrive. Some of the following points have been established by post-mortem examinations, but most of them still require this confirmation.

We may have a diminution of hearing-power for noises without a corresponding diminution of the power to distinguish musical tones, and *vice versâ*. The watch may be used to determine the one condition, a musical box to determine the other. It is probable that in the former case the vestibular and ampullar structures are chiefly affected; in the latter, the cochlear.

Again, as some persons are blind to certain colors, so others are deaf to certain notes. These defects in the range of audition are most frequently found in the higher notes, sometimes in the lower, and more rarely in the middle of the series. For the defect at either end of the series, the explanation at once suggests itself that either the higher or the lower strings are wanting, or that, as a whole, the apparatus is tuned to a lower or higher pitch. For a defect in the middle notes, we must suppose either an arrest of development of the corresponding strings, or their subsequent morbid alteration or destruction. It is clear that a destruction of the nerve-filament connected with a string or of the brain-cell from which it takes origin, would produce the same effect.

Instead of deafness to certain notes, there may be a painful hyperaudition of them. This must probably be referred to a morbid sensibility of the nerve or its originating cell, unless we suppose the string in question to have one or more others tuned in unison with it, and with a like nervous connection, or to have its vibrations reinforced by the resonance of some other structure.

Perhaps the most curious condition is that in which a certain note is heard not as a single one, but as a discord formed by the association of the note with others immediately above and below it. Here we may imagine that the "cement" between the proper respondent string and its neighbors has become hardened, destroying its isolation; so that it cannot vibrate without compelling them to do so. And, though the vibrations of all may possibly be synchronous, yet the brain will interpret the message from each string as indicating that note to which it was meant to respond. This affection may be termed *diplakousis monauralis*, to distinguish it from another, *diplakousis binauralis*, in which a given note is heard of differing pitch by the two ears.

There are some frightful cases where persons in apparently sound health become totally and hopelessly deaf in a few minutes. They are seized with apoplectic symptoms, in which giddiness and loss of equilibrium are especially prominent; the attack passes off speedily; but permanent deafness remains. This is due to hemorrhage into the labyrinth, known as Menière's disease. The same effect may result from fracture through the bony labyrinth—a frequent situation of fracture by *contre-coup*, since the petrous bone is here weakened by its numerous chambers, while it lies in the line of transmission of force from the vertex to the base of the skull.

The loss of equilibrium, just mentioned as dependent on labyrinthic lesions, points to a function of the semicircular canal as yet imperfectly understood. We only know that, in some unexplained way, these do seem to preside over equilibrium, and that an animal will turn or fall in one way or another according as one or another of them is injured.

Deafness may be produced by syphilitic inflammation of the labyrinth. Many of these cases present all the symptoms of Menière's disease; but if their

syphilitic origin be established, the prognosis, instead of being hopeless, is quite favorable.

Purulent inflammation of the labyrinth is not infrequent, and it is especially apt to occur as secondary to cerebro-spinal meningitis.

ART. 172.—*Local Remedies for Throat-Deafness.*

(*British Medical Journal*, July 20.)

At a meeting of the East Surrey District of the South-Eastern Branch, Mr. Hodgson (Brighton) offered for notice a contrivance which he represented he had for some time been in the habit of making, and using to excellent purpose, as a mode of applying medicaments (especially glycerine of tannin, diluted with an equal quantity of spirit of wine, and weak solution of nitrate of silver) to the posterior nares, the upper part of the pharynx, and the Eustachian passages, in cases of throat-diseases.

The instrument consisted of nine inches of glass tube, of the size of a small quill, bent at an angle of about 95 degrees, one end drawn out nearly to a point, and carefully rounded, and the other end filled with a few inches of India-rubber tube, in the further end of which was a bit of glass tube to act as a mouthpiece.

The bent portion of the glass tube having been charged by suction from a glass with the medicament (of which it will hold about twenty minims), the pointed end is to be carefully inserted for about an inch along the floor of the patient's nostril, and the mouthpiece in the operator's mouth.

The patient's nostrils are then to be grasped around the tube, and the patient directed to swallow, at which moment the operator is briskly to blow forwards the contents of the tube, and thereby scatter them into the upper part of the pharynx, etc.

Mr. Hodgson stated that almost any druggist could make the instrument, and any intelligent person (with one lesson from the surgeon) could learn to use it—a point of no little importance in such chronic cases as these are apt to be.

ART. 173.—*On Suppuration of the Antrum.*

By CHRISTOPHER HEATH, F.R.C.S., Surgeon to the University College Hospital.

(*Injuries and Diseases of the Jaws*, 2d edition, pp. 416. London. 1872.)

"The treatment of suppuration of the antrum consists," Mr. Heath writes, "in the first place, in the extraction of all decayed teeth or stumps in the affected jaw, and with this object in view those teeth which are apparently sound should be tested by a sharp knock with some metal instrument, when, if tender, they should be extracted. If the cause of the mischief is removed in time, the inflammation will subside under fomentation and the application of a leech to the gum; but if matter has formed, it must be evacuated without delay. If the extraction of a tooth is followed by the flow of pus, the enlargement of the aperture in the socket by the introduction of a trocar is at once the readiest and simplest mode of evacuating the matter; but if all the teeth are apparently sound, it will be advisable to extract the first molar in order to puncture through one of its outer sockets. The first molar is to be preferred for extraction, both on account of the depth of its socket, and also because, as mentioned by Salter, it is more liable to decay than the other teeth. In puncturing through the socket of a tooth with a trocar, it is well to gauge the depth to which the instrument may safely go with the fingers of the hand which grasps it, lest injury should be unwittingly inflicted on the orbital plate by the trocar entering unexpectedly. When the teeth are all sound, some surgeons prefer to perforate the alveolus above the gum with a trocar or strong pair of scissors, and similar treatment would be required in the rare case of suppura-

tion occurring after loss of the teeth in old people. I find it convenient to employ the ordinary canula with the trocar, since by its means the flow of fluid can be more readily seen, and any injection of the cavity at the time easily performed.

"Whatever method may be adopted for emptying the antrum, it is important that the cavity should be thoroughly cleansed by the injection of warm water. For this purpose a curved canula, fitting the syringe ordinarily employed for injecting hydrocele, answers very well; or I have satisfactorily employed an ordinary Eustachian catheter for the purpose, to which an India-rubber injecting-bottle can be readily adapted. After thoroughly cleansing, some detergent and slightly astringent lotion should be injected, to restore the healthy condition of the mucous membrane, and for this purpose weak solutions of permanganate of potash or sulphate of zinc answer admirably. If the perforation has been made through the socket of a tooth, care must be taken that particles of food do not gain admission to the antrum, and this may be accomplished by plugging the hole with cotton wool, or, as suggested by Salter, by fitting a metal plate to the mouth with a small tube to fill the aperture, which can be corked at pleasure, and will serve as a pipe for injection. When the perforation is made above the alveolus there is much less likelihood of food finding an entrance."

ART. 174.—*Ulcer of Cornea and Dental Abscess.*

By C. E. WRIGHT, M.D., of Indianapolis.

(*Ind. Journ. Med.*, July; and *New York Medical Record*, October 1.)

That a diseased tooth may be an immediate cause of a corneal ulcer, or an active agent in prolonging its cure, Dr. Wright would admit. He publishes the case of a lady, æt. forty, who had an indolent round ulcer on the corner of the right eye, and had been subject to violent paroxysms of toothache and neuralgic pains on right half of face and head for months; after proper ophthalmological treatment she was advised to consult her dentist, Dr. P. G. C. Hunt, who extracted the first upper molar on right side, finding an abscess at the root. The same treatment of the eye was continued, and in about three days the eye was well.

ART. 175.—*Hygromatous Cyst of Von Ammon.*

By WILLIAM R. McMAHON, M.D.

(*Medical and Surgical Reporter*, July 27.)

Dr. McMahon mentions an unusual case of congenital cyst of the neck, filling the space between the upper part of the sternum and chin in a child four days old, which was cured by a seton composed of two strands of surgeon's silk saturated with tincture of iodine, and external pressure commensurate with the comfort of the child. The seton was not introduced until nearly three months after the birth of the child. The obliteration of the cyst was perfect, and the only mark left to designate the site of this formidable tumor, was simply a slight redundancy of tissue.

ART. 176.—*Fracture of the Base of the Skull; Paralysis of the External Rectus; Recovery. Treated in the Brooklyn City Hospital.*

Reported by J. H. RAYMOND, M.D., late House-Surgeon.

(*New York Medical Journal*, May.)

J. L., aged forty years, a truck-driver by occupation, was admitted to the hospital Nov. 30, 1871. He was thrown from his truck and fell a distance of four feet, striking upon the left side of his head. On admission he appeared to

be suffering from compression of the brain; there was bleeding from both ears and nose, and also a scalp wound over the left parietal region—which, however, gave no trouble, healing by first intention. The following morning he was conscious; his speech was indistinct; his left side was paralyzed; the power of motion over the limbs being just appreciable, while the facial paralysis was complete. It was discovered for the first time that there was a discharge of a serous fluid from the left ear, which continued for several days; the left eye was turned in toward the nose, and could not be directed outward; the patient complained of “seeing double.” He gradually regained the use of his limbs, and of the muscles of his face, though the improvement in the facial paralysis was less rapid. By Jan. 1st he was able to leave his bed, complaining only of severe headache on the left side at night, of deafness in the left ear, and double vision. His headaches disappeared after a few weeks, while his deafness remained up to the time of his discharge. With the return of the power of motion in limbs and face, no improvement in his external rectus took place. About this time attention was attracted to an article in the *London Practitioner*, for the month of January, on the use of the Calabar-bean. On the 19th of Jan. a solution of the alcoholic extract was ordered, of one grain to the ounce of water; one or two drops were daily dropped into the eye, and at the expiration of a week the gain of power over the rectus was appreciable, both to patient and physician. The only other effect was to contract the pupil. At the time of the patient's discharge the improvement was very marked, he being able to carry the centre of the pupil three lines to the left of the median line. After the drops had been in use about one week, he discovered that, by closing the nose and mouth, and blowing, he could cause the air to pass out through the puncta of both eyes. He was discharged from the hospital Feb. 19, 1872, able to resume his occupation. This open condition of the lachrymal canal did not appear till the Calabar-bean had been in use one week, and the question naturally was asked whether it was a result or a coincidence only. Forty-three persons were examined for the purpose of ascertaining the condition of the lachrymal canal when no Calabar-bean had been used, and it was found that of this number six could blow air through the puncta when the mouth and nose were closed, though but one seemed to have the passage as open as the patient.

(B) CONCERNING THE TRUNK.

ART. 177.—*On the Treatment of Bubo.*

By Dr. EMANUEL KOHN, of Vienna.

(*Schmidt's Jahrbücher*, No. 8, 1872; *Wiener Medicinische Presse*, xiii. 25, 26, 27, 29, 1872.)

The author states that the arrangement of buboes into chronic, sub-acute, and acute, as adopted by Von Sigmund, is from a practical standpoint the most convenient; with chronic buboes there is no pain; with sub-acute buboes there is pain only on firm handling; but with acute buboes, in addition to spontaneous pain and all the phenomena of inflammation, there are, more or less, considerable disturbances of the general health.

In cases of *chronic* bubo the use of warm applications should not be long continued, lest hyperæmia and inflammation of the skin be set up; the surgeon should aim at bringing about a change of material in the diseased organ by exciting a slight degree of inflammation. This object is best attained by the local application of tincture of iodine, either pure or mixed with tincture of galls, which must be applied several times daily until a thick covering has been formed which passes beyond the circumference of the original tumor and serves to compress the subjacent organ. By the simultaneous application of warm fomentations or mechanical pressure, also by the local use of astringents and reabsorbents, may the action of the iodine paint be increased. It ought, however, always to be borne in mind that the skin should not unnecessarily be much irritated.

A second kind of treatment consists in the administration of remedies for the constitutional affection and in the systematic use of simple baths, or of medicated baths and drinks. In a treatment with preparations of iodine the author recommends occasional interruptions, especially when large doses are prescribed. Inunction of mercurial ointment should be restricted to the lower extremities. With all treatment of this kind absorption does not take place until after a long period, and even then is incomplete; the most that can be obtained is a considerable diminution in the size of the affected gland.

In the treatment of *sub-acute* buboes the first object of the surgeon is to reduce the intensity of the irritative process, as a new-cell-formation is the chief element in this form. The chief means for attaining this object are rest and cold. The patient must remain in bed with the extremities in such a position that the fasciæ may be relaxed and all pressure on the diseased gland be avoided. The tumor should be covered by an ice-bag or by cold compresses. The application of cold is contra-indicated only by the following conditions: diarrhoea, catarrh, rheumatism, rapidly appearing swelling of the tonsils and uvula, and chilliness or an attack of rigors, which can be attributed to no other cause. If the above mentioned method of treatment be applied in good time the progress of the inflammation may be averted, whenever at the commencement of the treatment the disease has not passed beyond the stage of irritation. Should a tumor appear in spite of this treatment, the surgeon should still continue this treatment; painful tumors, as large even as a pigeon's egg and covered by tightly distended skin, often disappear under the influence of cold applications. There is certainly a danger of relapse, but one of no great consequence. This treatment should be associated with a moderate diet, and the state of the bowels be attended to. Even when the affection has passed into the *acute* stage and when the process of suppuration has commenced, may the use of cold under certain conditions be attended with success. At this period, however, Dr. Kohn recommends the use of warm baths when the irritative fever is not too great and not continued. The pain almost always ceases, or at least abates, when the patient is in the bath, and if it can be so arranged that the patient, after half an hour's stay in the bath, can at once be put to bed and made to sweat there, this method of treatment is rendered more active. The baths may be taken every day, only the bath must not be far removed from the patient's bed, for the going there and back, especially when a staircase is on the way, does an amount of harm which exceeds the good done by the bath.

With regard to the operative proceedings undertaken for the purpose of discharging pus, Dr. Kohn asserts that in suitable cases (abscess with relatively small purulent contents and covered by a thick cutaneous layer) punctures or subcutaneous aspiration are perfectly justifiable, as they never do harm and are very often serviceable. If the surgeon should wait until the bursting of the abscess, or, with an idea of seeing the pus absorbed, he will often have to deal with large collections of pus, for the treatment of which incision is absolutely necessary. Very many and various kinds of incisions have been recommended for the opening of an abscess, most of which have been devised with the view of preventing subsequent sinuses. These sinuous and partially tubercular prolongations of the original cavity do not owe their origin exclusively to the stagnation of pus, but to the associated action of a number of conditions—as the peculiar anatomical conformation of the affected region, the accumulation of loose and widely meshed connective tissue, the extension of the inflammation along the lymphatics, which run in all directions, and suppuration in the neighboring glands which there communicate with the original purulent deposit. The chief share in the production of sinuses is, however, according to Dr. Kohn, taken by the formation of cutaneous angles and folds, and the surgeon must endeavor to act against this faulty tendency as much as he is able by suitable disposition of the patient. With regard to the treatment of these fistulous canals, Dr. Kohn advises the expectant plan; early slitting up of the canal may do harm by exciting inflammation and sloughing in a part which might readily and speedily have been healed by other treatment. Dr. Kohn recommends the occasional cauterization of these sinuses, either by injection of caustic fluids or by the introduction of pencils of nitrate of silver. With

the use of the latter the surgeon should first dilate the opening of the fistulous canal with a small sponge tent, especially in cases where the direction of the canal is at right angles to the long axis of the body; this proceeding prevents closing of the upper end of the canal whilst suppuration is still going on in the deep portion, and the bad results caused by confinement of pus are thus avoided.

Opening of the abscess by caustic paste, the pain attending the use of which may be considerably relieved by the application of cold and by a subcutaneous injection, is especially recommended in cases where the wall of the abscess is thin, or where there are several purulent deposits which threaten to unite, where the patient is timid and anxious, and where the least loss of blood may prove prejudicial. Any hemorrhage that may occur can be averted by cold or compression. After the abscess has been opened the external surface often presents the appearance of a large cancerous ulcer having no tendency to heal; in such cases the surgeon often attempts to excite healing by notching the margins of the ulcer, or applying irritants, and to favor a healthy process by administering tonics. In uncomplicated cases the ordinary treatment of wounds is sufficient. The surgeon should not do too much in cleansing the wound, as this may readily take on bad action. It is necessary to favor a free discharge of pus from sinuses which, when necessary, should be dilated by sponge tents. When a gland remains in the centre of the cicatrizing surface and prevents complete closure of the ulcer, it must be removed. This is best done by applying caustic-paste; cicatrization may be accelerated by baths and the application of fomentations and salves. Excoriation of the scar must be carefully avoided; this may lead to great loss of substance and the formation of an obstinate ulcer. Extensive cicatrices, by compressing the vessels, may cause dropsical swellings of the corresponding lower limb.

Even in cases where the bubo has opened simultaneously before the patient comes under treatment, may the use of cold be beneficial. The surgeon should save edges of skin whenever he can, for these often take part in the subsequent healing processes, even after they have been much undermined. In cases where there has been considerable undermining, and where the skin at the same time is discolored, or the purulent secretion profuse and of a bad character, the jagged edges may be removed.

In cases of gangrenous bubo, which is met with much less frequently in private than in hospital practice, the prognosis is most favorable when the occurrence of this lesion has been favored by over-exertion. Rest, a suitable position, and cold applications, often suffice for improving the character of the ulcer. In cases of bubo rendered gangrenous by neglect, the abuse of irritant salves and dressings, or hospitalism, the prognosis is as unfavorable as that of hospital gangrene. In such cases the wound may in a short time spread over an enormous extent. For the treatment of this condition, Lister's antiseptic dressings are to be recommended. This plan, however, is often inefficacious: the suppuration becomes profuse, and the mortification of the tissues extends more and more, often producing in consequence of erosion of bloodvessels, hemorrhages, which cannot be arrested without difficulty. The affected tissues are generally quite insensible, but sometimes, especially with profuse suppuration, contact with the ulcerated surface causes intense pain. But sores may be readily produced in cases of this kind, and the danger of pyæmia is very great. The treatment of this kind of bubo should be specially energetic. Powerful caustics must be applied to all the diseased tissue, local antiseptic treatment be carried out, and care be taken to support the strength of the patient, who may speedily sink. It often happens, however, that all these means fail, and that even the actual cautery fails to alter the bad character of the ulcer.

ART. 178.—*The Power of Cold in the Treatment of Gonorrhœa.*

By GUSTAVE A. SHANE, M.D., of Salem, Ohio.

(*Medical and Surgical Reporter.*)

Dr. Shane reports twenty-three cases of gonorrhœa which were quickly cured by the aid of cold—ice to the perineum—and an alkali to secure its reaction upon the urine. Once he regarded, with others, gonorrhœa as one of the most unsatisfactory and perplexing diseases to treat; but he now finds, if seen in the former stages, no difficulty in subduing it from four to ten days without any resulting gleet, chronic prostatitis, chronic irritability of the bladder, stricture, and such other sequences as followed the old copabia and “squirt-gun” methods of treatment. When he treated this disease by the use of copaiba, cubebs, the terebinthinates and caustic injections—in the same number of cases, the maximum duration of treatment was one hundred, the minimum nine days, the average twenty-six, with six cases of the above-mentioned sequences.

ART. 179.—*Laminaria in the Treatment of Urethral Strictures.*

By ROBERT NEWMAN, M.D.

(*New York Medical Record*, July 1.)

The following are some of the conclusions arrived at by Dr. Newman:—

1. The bougies must be made from an unblemished piece of the plant, taken out of the middle, made with care and equal in its whole length and size. If there is the slightest suspicion of unevenness, it should not be used.
2. That part of the bougie which will occupy the portion of the urethra below the last stricture, and particularly *that* part of the bougie which enters the bladder, must be varnished previously. Mastic-varnish can be used. If the varnish is applied just before using, the laminaria may dilate a little, but, if several coats are applied and allowed to dry, no expansion can take place.
3. As any oily substance hinders the expansion, no oil must be used. The bougie before introduction must be placed in cold water, until it gets a soft, velvet-like touch.
4. The bladder must be emptied before the operation, to avoid uneasiness and over-distension.
5. The urethra ought to be injected with water, to relax the parts and favor the moisture for rapid dilatation.
6. The measure of the urethra and seat of strictures must be carefully taken, notes made, and the bougie prepared accordingly.
7. The bougie, when ready, must be introduced at once, straight without hesitation, twisting, or resting in its passage; otherwise it will cause pain, or, as dilatation goes on immediately, it will not reach the desired depth.
8. After insertion, the bougie must be left alone, and not meddled with, or tried to move.
9. It must be left inside undisturbed for from two to four hours, according to circumstances, consulting the feelings of the patient.
10. The patient during this time is left in a recumbent position, and attended or observed by the surgeon.
11. In removing the bougie the surgeon takes hold of the bougie, and uses, firmly and gradually, tractions in the same direction.

If some surgeons have failed in laminaria, they either have not observed these precautions, or they have had imperfect bougies, or selected impracticable cases.

This treatment is most indicated when the stricture is very small, almost impermeable, and no time can be lost, as the No. 1 bougie of laminaria can be introduced easier than the usual sounds or catheters. In a few hours the patient is relieved, and can micturate without difficulty. No bad results can follow, nor will it interfere with his attention to business. This latter advan-

tage is a great consideration, as the treatment with divulsors, or dilators, almost always causes pain, suffering, and detention in bed and from business. As soon as the stricture is dilated so far that a steel sound of a large calibre can be introduced, the laminaria has done its duty, and it is better to abandon its further use, and continue with other means. These are either steel sounds or galvanism.

ART. 180.—*On the Aspiration of Gas and Fluids from Irreducible Herniæ.*

By M. A. MURON.

(*Gazette Médicale de Paris*, No. 33, 1872.)

There is decidedly a current of opinion which has led most surgeons to make a capillary puncture into the tumor formed by strangulated intestine, and to remove by aspiration all that is found contained in this intestine. These surgeons follow the idea that the involved portion of intestine in consequence of the strangulation, however slight this may be supposed to be, becomes swollen and distended—in short, is very much congested; and they are also convinced that this congestion determines both an external and an internal effusion. In the peritoneal sac there is a *sero-sanguinolent* fluid; in the intestinal cavity there is a *muco-sanguinolent* fluid.

The quantity of exuded fluid will vary very much according to the stage of the hernia, the degree of strangulation, the age of the subject, and the condition of the organism; but there will always be an exudation into both cavities, and the only special difference existing between these two series of fluids will be due to its nature—serous for the peritoneum, mucous for the intestine. Most surgeons, finally, are persuaded that the removal of this muco-sanguinolent fluid will much facilitate the return of the intestine, and with this object in view make use of some kind of aspirator, as Dieulafoy's, Potain's, or Regnaud's.

We propose to consider the above *idea*, and to make out the experimental results of the *current of opinion*.

With regard to the first point, no kind of doubt can exist. Great differences may be presented in the various kinds of hernia with regard to the quantity of the fluid, but the reality of the fact may be affirmed. Without doubt if a hernia be examined just at its commencement there will be no exuded fluid, but in the course of a short time an abundant exudation will be produced. Without doubt, again, if one takes a hernia manifestly strangulated from the moment of its production, the fluid exuded, *in proportion to the volume of hernia*, will be formed more rapidly and in more considerable quantity in a case of one of those voluminous herniæ, concerning the irreducibility of which there has been so much discussion.

We do not wish to enter into a debate on this subject. We show only that there are several varieties of intestinal hernia. Some veritably strangulated in every meaning of the word, are characterized by their small size, by their appearance after having been kept up for a long time with a truss, and by their presenting themselves in the form of hard rounded and uniform tumors; others, much more voluminous, are in general less tense, more supple, and have the habit of appearing and disappearing spontaneously. Those are the *inflamed herniæ* of Malgaigne, or the *herniæ in the first stage of strangulation*, as described by Goyrand, of Aix.

These are extreme types, but in practice one finds a whole series of intermediate states which occasionally presenting a very great difficulty to resolve, sometimes approach near to the first series, at other times, on the contrary, may be classed with the second.

In all there is an obstruction to the circulation, which is the greater as the strangulation is more considerable. At first there is only a relaxation, an incomplete stasis, a kind of repletion. But in a short time all these phenomena become well marked, the arrest is complete, the turgescence of the intestine evident, and its coloration passes through various tints; it is red at first, then

bluish, and finally black. One more degree, and there is gangrene of a portion of the hernial loop, or even of the whole loop

Though rapid in their evolution when one deals with true strangulation, these various stages of congestion may be produced slowly and successively, so to speak, in cases of large hernia. The entire system of the circulation in the protruded part is filled and distended; the capillaries are full of blood globules, and plasma, and they seem to make an effort to retain these contents; but it may be conceived that the internal pressure soon overcomes their force of resistance, they become ruptured, and then pour out sanguineous fluid in the form of exudation.

The presence of the intestinal glands enables one readily to understand how fluid exuded into the intestinal cavity becomes viscid and mucous, whilst that in the peritoneal sac is simply sero-sanguinolent.

One may see that this exudation of fluid, which exudes from the surface of the intestine, is itself subordinate in great part to the congestion. We do not say, however, it has any proportion to this, and for this reason. Two subjects of hernia being given with the same degree of congestion, if one of these herniæ be more voluminous than the other, the fluid effused in it will be more considerable. In addition, if one of those patients be feeble and in poor condition, the other strong and capable of offering great resistance, it is certain that the exudation will be more abundant in the former. Whence it results that one may consider as demonstrated this fact of the absolute subordination of the intestinal or peritoneal effusion to the congestion of the intestinal hernia; and although it may be permitted one to hold that the quantity of exuded fluid is proportionate to the size of the hernia, and to the force of resistance of the organism, still there is nothing to authorize us in concluding that there is this absolute relation.

In summing up the previous observations it seems to us possible to affirm that in every hernia there is an effusion of sero-sanguinolent or muco-sanguinolent fluid; an effusion less abundant when the hernia is small, much more considerable when the hernia is of large size. This effusion commences at an early period and proceeds rapidly in cases of true strangulation, but is produced much less rapidly and proceeds very slowly in cases where the hernia is large and where the neck of the sac presents a large opening. Cases, however, of the latter kind may become acute if the patient has made a too violent attempt to reduce the tumor.

With regard to the question of the gas which may be included in the interior of a protruded portion of intestine, whatever may be its origin, either from the intestine itself, from the blood, or from the decomposition of exuded fluids, we can state very little that is precise. We believe that in recent herniæ its influence is very small, and that it is only in hernia of some duration that it plays any part in the prevention of reduction.

A herniated portion of intestine contains fluid and gas; by removing these can one facilitate the reduction of the hernia? This question now remains to be considered, and for assistance in this consideration we will pass in review the different cases in which this method has been applied.

M. Fleury, of Clermont, sent to the Society of Surgery, in July, a note in which he begged the members to publish each of the cases of his practice, in order to establish indications and contra-indications.

As yet indeed the cases have been very few, and it would be rash to attempt to lay down at the present day any absolute indications, and the more so as but few surgeons have hitherto published the results of their attempts.

About a year ago M. Duploux announced a success in the reduction of hernia, by practising the aspiration of the fluid and gaseous contents of a loop of intestines. This caused great sensation in the surgical world. The practice corresponded to an idea, and to M. Duploux belongs the honor of having been the first to apply it.

The case, which was published in the *Gazette Hebdomadaire* (1871), was one of a man eighty-two years of age, who had been the subject of inguinal hernia for forty days. An attempt at taxis was made, but failed. On the following day aspiration was practised. The intestine could then be readily re-

duced and a permanent cure resulted. This succinct report suffices amply to show that this ought to be classed among the incarcerated or inflamed herniæ. The date of the hernia and the complete absence of abdominal symptoms would remove all doubt on this point.

We find in a thesis published by M. Autun, in 1871, another case, from the same surgeon, but the report is very brief and gives no details either as to the date of the hernia or its nature. M. Duploux simply states, "I have practised aspiration in another case of hernia, and with success."

M. Dugué, of Mans, has also practised puncture and aspiration in a case of irreducible trigeminal hernia on the left side. Gas and fluid were discharged, but the taxis was not successful. An operation was then resorted to; some peritoneal adhesions were found, which had previously prevented the return of the tumor. The cure was complete.

Here we have an unsuccessful instance of aspiration in a case of inflamed hernia.

M. Dolbeau has had occasion to perform aspiration, and this case may be regarded as a successful one. The patient was a man sixty-two years of age, affected with heart disease, and who had had a hernia for four or five days. The patient when first seen by M. Dolbeau was in a state of asystole and an operation could not be performed. On the following day, however, as the patient was still living, M. Dolbeau decided on practising aspiration and puncture. Gas and fluid were let out and the intestine was then easily reduced. After the death of the patient, which took place two days later, no traces of peritonitis could be found, and reduction of the intestine had been complete.

M. Panas, at a sitting of the Society of Surgery, on July 31st, mentioned ten cases in which he had tried aspiration. One case was that of an old man, who had a large scrotal hernia with fluid inclosed in the hernial sac. The patient had fecal vomiting. Aspiration was practised, and 100 grammes of fluid withdrawn. The taxis was then attempted, but without success. An operation was then decided upon. The loop of intestines was found to be red and inflamed; the constriction was readily performed, and the hernia returned. The patient speedily yielded to peritonitis.

Such are the different cases in which have been practised puncture, and the aspiration of gas and fluid contained in herniated intestine. In the cases of large incarcerated or inflamed herniæ, one may count as many successes as attempts. The last case cannot be considered as bearing upon the question, seeing that only puncture of the sac was made.

Let us now regard other cases which have been published, and which treat of true strangulated herniæ. But we will first repeat the words of M. Duploux, which are given in the report of his first case. "This method, the indications of which can be distinctly laid down only by experience, seems to me to be especially applicable in cases of tolerably large enterocele affected with strangulation, consecutive either to inflammation or to incarceration. I have lately had under my care three cases of crural hernia, in which the swellings were very tense, very small in size, and apparently contained very little gas and still less fluid. In these cases I decided at once to perform the ordinary cutting operation." Thus the originator of the method does not advocate it in cases of strangulated hernia. But, as he takes care to state, experience will decide the question. Unfortunately, with this kind of hernia the period during which the surgeon can attempt the taxis is very restricted, so that aspiration can be but rarely practised.

M. Richet has had an opportunity of trying this method. He practised puncture and aspiration in a case of recently strangulated crural hernia. A hollow needle passed into the swelling gave exit at first to a few drops of sanguinolent serosity evidently proceeding from the hernial sac; afterwards, on pushing the needle further, a viscid and inodorous fluid of the consistency of simple syrup was withdrawn. The tumor then diminished in size, and M. Richet then did nothing more, as he thought that the tumor would return by itself. On the following day, however, as vomiting had persisted, celotomy was performed. The patient recovered.

It would certainly be ungraceful if we took upon ourselves to regard that

the method of aspiration in this case had not been carried out in its entirety; the course taken by the surgeon is justified by the success which he obtained. But yet the case is not the less remarkable: A strangulated crural hernia remained for more than twenty-four hours after the extraction of fluid in the midst of the strangulating agencies, and yet underwent no kind of gangrene.

In the following case taken from the reports of the Society of Surgery a complete attempt was made.

A man who had suffered from strangulated scrotal hernia for sixteen hours came under the care of M. Verneuil. The hernia had appeared suddenly, and was therefore veritably strangulated. No attempt had previously been made at reduction.

Strangulation at the neck of the sac was diagnosed. As the tumor was a fluctuating one, puncture and aspiration were performed. About 400 grammes of a rose-colored fluid were withdrawn; there was then hydropsy of the sac. After this evacuation a medium-sized hernia could be felt. An attempt was made to reduce the hernia, but this was unsuccessful; puncture and aspiration were tried a second time but nothing could be withdrawn. On a third puncture a small quantity of pink viscid fluid flowed away. It was again tried, but the attempt was not prolonged; kelotomy was then performed and the constriction at the neck of the sac divided. The intestine was slightly livid. The loop of intestine presented three perforations, two formed at the first puncture, one at the second. The intestine having been set free, a portion of epiploon was ligatured, the hernia being an entero-epiplocele. Reduction was then effected. The patient recovered.

So far we find want of success from the method, but no bad result from it.

Here, on the contrary, is a case of strangulated congenital inguinal hernia on the left side of which there was absolute success.

The patient was a young man who, after a fatiguing journey, was attacked with acute colic, accompanied by vomiting. A large tumor had formed in the left groin. On the following day an unsuccessful attempt was made at taxis, and on the day after, that is to say, at about the fortieth hour, puncture and aspiration were practised. At this period the patient's features had become altered, fever had been set up, and the hernial tumor was large, elongated, and followed the course of the inguinal canal. The testicle was in contact with the intestine.

The taxis had been applied with care, but without any good result. Aspiration gave issue to 120 grammes of intestinal fluid and some gas. The tumor then collapsed, and could be readily returned by pressure from below upwards into the abdominal cavity. In a short time there was complete recovery.

Such is the remarkable case which has been communicated to the Academy of Medicine by M. Demarquay.

Taking into consideration these cases which we have just quoted, and which are all that have hitherto been published, it seems to us to be difficult to lay down the least indication. A complete study of the matter has yet to be made. M. Demarquay proposes that this mode of treatment should be again applied:—

1. To all congenital herniæ and to recent herniæ strangulated at the moment of their formation.

2. To old herniæ which were quite reducible a few days before strangulation, and in cases of recently strangulated umbilical herniæ.

3. This aspiration of fluids and of gases, having for its object the greater facility of the taxis, ought to be practised only at an early stage, and at a period when there is almost a certainty of reducing into the abdominal cavity an intestinal loop which is unchanged and susceptible of regaining its functions.

ART. 181.—*On Strangulated Hernia, and its Treatment.*

By Sir JAMES PAGET, Bart., V.P.R.S.

(British Medical Journal, April 27.)

The following is a synopsis of a recent lecture by Sir James Paget on strangulated hernia and its treatment, which was prefaced by the remark that, though he had operated a hundred times, to obtain conclusions of real value would need the tabulation of at least a thousand cases:—

"Generally speaking, in a case of hernia with signs of strangulation present, and reduction by ordinary means cannot be accomplished, an operation should at once be performed: in some cases, although the hernia is irreducible, the symptoms of strangulation are slight, obscure, or incomplete. It is an easy rule for all these cases that you should operate when strangulation is suspected: this rule you must avoid, and learn the hard one to discriminate the cases that require operation.

"The irreducibility of the hernia is a fallacious sign of strangulation, and the presence of the other local signs even in a marked degree is not decisive of strangulation and is not sufficient to prove the need of operating when the remoter signs are not present. The local characters usually present in a strangulated hernia, and sometimes the remoter signs, may be imitated in an inflamed hernia which is not strangulated. Generally in the inflamed hernia, without strangulation, the local signs precede and greatly predominate over the remoter and general signs; while, in a hernia which is inflamed after becoming strangulated, the remoter and general signs will still predominate over the local, and the history will tell that they preceded. If these means of discrimination fail, you must operate if you cannot easily reduce the hernia; the risk of operating is small in comparison with that of waiting, for an inflamed and irreducible hernia may at any time become strangulated.

"A hernia that has come down quickly, and the more it exceeds its usual size, the less is the probability of its being reduced without operation.

"Again, the harder, more tense, and plentiful a hernia is, the less the chance of reduction without an operation.

"Again, if the remote and general signs of hernia are present, and the hernia cannot be reduced, you must operate; or if there be a swelling which may be a hernia, though it seem not likely to be a strangulated hernia, the operation must be performed at the seat of swelling.

"If a patient have two herniæ that are irreducible, and signs of strangulation, and you cannot tell which is strangulated, you must operate on both.

"One or more actions of the bowels, after symptoms of strangulation have set in, are of no weight against the propriety of operating; even frequent and regular action is not an absolute prohibition, as strangulation may involve only omentum or only a part of the circumference of a portion of the intestine.

"As a rule, while the bowels act you should not operate, unless all the other signs of strangulation are well marked.

"The sign we should most rely on as commanding the operation is vomiting. The rule is safe that recent irreducibility and vomiting are enough to justify the operation, even though there be no other signs of strangulation present. While there are notable kinds of vomiting characteristic of strangulated hernia, we should not be misguided by waiting for any particular kind. Any kind of vomiting, if it be repeated, is enough to justify operation in a hernia recently become irreducible.

"Cessation of vomiting in the extreme condition of strangulated hernia is a token of evil rather than of good, if general improvement do not coincide with it. The pulse is 80 or 90 in a majority of ordinary cases in the early stages, and becomes more rapid as the symptoms of strangulation become more marked; the respirations usually are in due proportion to the pulse."

For the reduction of strangulated hernia without operation, Sir James Paget laid down the following general rules:—

"In cases, for instance, when the patient vomits fecal matter, and has peritonitis, or is in collapse, with a small, rapid pulse, hiccough, or other such extreme signs, there should be no attempt at reduction without operation.

"When the coverings of the hernia are so inflamed as to make it probable that sloughing or suppuration has taken place beneath them, reduction should not be attempted without operation; and even when less inflamed, none but slight and brief efforts at reduction should be made.

"The longer the signs of strangulation have existed the shorter should be the efforts at reduction, but the intensity of pain in recent or acute hernia should not deter one from making the attempt.

"In hernia which has been habitually reducible and become strangulated, you should operate at once. It is a safe rule of practice that, after a warm bath, and a few hours' rest in bed, a single attempt at reduction should be made; should this fail, chloroform or ether should be given, and then in some cases, but not in all, a second attempt made; this failing, the operation should be performed while the patient is still insensible.

"The hot bath is useful in all cases that are not bad, unless in old and feeble persons; the patient should be simply soothed or relaxed in the bath, then wrapped in warm blankets, put into bed, lying on his side or his back, with his knees drawn up, or with his pelvis a little raised, and then, after an hour or two of complete rest, to attempt the reduction. The employment of rest and the bath are helped by opium when the hernia is painful. In the old, and others who may have had inactive bowels long before the strangulation, an enema of a large quantity of liquid should be used. Purgatives should not be used if there are marked symptoms of strangulation.

"After the warm bath and rest have been tried, you may give chloroform or some other anæsthetic. In making the attempt at reduction you must be gentle and self-restraining, mindful of the delicacy of some of the structures you are handling, and that you may do them much more harm than would come of the operation which you are trying to arrest. These cautions are the more necessary because, when the patient is under chloroform, you have nothing but your own sense and senses to tell you how far you may go without doing harm. Chloroform is most useful in the herniæ of which the difficulty of reduction is chiefly due to muscular resistance, in the recent, or in the recently much enlarged; in the inguinal more than in the femoral; and in these more than in the umbilical; in the painful more than in the painless. In herniæ that have only recently come down, and are intensely painful, it is right to use chloroform or ether without waiting for the influence of the warm bath, but more commonly, if there be danger in waiting three or four hours, it is because strangulation is so far advanced that the operation ought to be done without any previous attempts at reduction.

"After the warm bath, rest, and chloroform have been tried, and the reduction is not accomplished and strangulation exists you should operate while the patient is still under the influence of chloroform; but if strangulation is not present you may wait, but must watch impatiently, for the hernia is likely soon to become strangulated. While waiting, ice or warm dressings, enemata, aperients, or opiates may be used. Tobacco and curious postures, and shaking the legs up and the head down, and the cupping-glasses, are more dangerous than the operation which they are intended to avert. For doubtful or partial reduction there is one practical rule—operate if the symptoms of strangulation are not relieved. In cases in which reduction seems complete but the symptoms of strangulation are still present, operate, if you can feel a lump at or near the hernial ring.

"Old age and disease may add to the risk of an operation for strangulated hernia, but they must be accepted. A patient must not be allowed to die with a strangulated hernia, if by any means whatever the strangulation can be relieved, and you must not be averted from the operation by the number of deaths that follow it. The deaths after the operation may be fifty per cent., but the deaths due to the operation are not more than two or three per cent."

ART. 182.—*A Case of Painful Affection of the Left Breast in a Woman.*

From the Clinique of M. S. DUPLAY, of the Hôpital de la Pitié.

(*Gazette Médicale de Paris*, No. 23, 1872.)

"This woman is the subject of an affection which is rare, and which may present two degrees. The pains which it causes are lancinating, and come on after short intervals. In this case their starting point was an injury received about twenty years ago, and since then they have never entirely ceased. The patient has led a miserable existence and has been under the care of several surgeons. Various kinds of medication have been tried, but without success; bromide of potassium alone has afforded amelioration, which, however, is temporary.

"The patient states that twice or three times in the week, sometimes while she is asleep, sometimes during the day after slight fatigue, as with going up stairs or with walking quickly, she is suddenly attacked with violent pain. This pain almost invariably starts from a fixed point between the mammary gland and the edge of the axilla, below the great pectoral muscle, and radiates along the corresponding intercostal spaces. The patient at the same time suffers from violent palpitations of the heart, feels as if she would be choked by a ball rising in the throat, and finally loses all consciousness. In addition to these phenomena, there is an almost absolute anæsthesia of the superior half of the body.

"This affection presents some resemblance to angina pectoris. As in the latter affection one finds exaggerated movements of the heart, symptoms of suffocation, syncope at times, and numbness. The pain affects likewise the left side. But in angina pectoris the initial pain seems to proceed from deeply-seated parts, usually from the heart, and it radiates along the branches of the brachial plexus. In this case the pain on the contrary is superficial, and seems to be seated immediately under the integument of the breast, and to follow the track of an intercostal space. These characters, however, would not suffice for the determination of the nature of the affection in the absence of an element which thoroughly elucidates this case.

"The patient has always asserted that she could feel under the skin of the breast a small tumor, which increased in size at every menstrual period, and which was the starting-point of the severe pains. After many unsuccessful attempts to find this, M. Duplay was at last able to make out its existence. It was situated under the inferior edge of the great pectoral muscles, beyond the external border of the gland. It was very movable, of the size of a small pea, and when it was compressed, the patient made a sudden start as if a sensory nerve had been nipped.

"Sir A. Cooper was the first to describe this painful affection of the breast, under the name of *irritable tumor of the breast*, *neuralgia of the breast*. He distinguished two varieties—a neuralgic affection without a tumor; and a second variety with a tumor situated over the track of some filament of a thoracic nerve, and independent of the gland. Velpeau also gave a description of the affection, and several cases of the kind were reported by Dr. Rutz, in the *Archives de Médecine* of 1843.

"M. Duplay has described this affection under the name of *neuroma*, without, however, attempting to find any kind of analogy with the as yet very imperfectly known histology of the neuroma of authors. He wishes simply to express by this designation that these tumors of subcutaneous cellular tissue have the neuralgic characters of neuroma.

"The recognition of this affection, though a rare event, is one of great importance. In fact, the least painful induration of the breast very naturally causes the woman to suspect the existence of a cancer. These small tumors are met with in especial frequency amongst multiparæ and women who have suckled their children. They are not serious, except through the nervous

disorders which they excite. There is seldom any necessity for the surgeon to interfere.

"The amelioration produced by the bromide of potassium in this case was a motive for continuing its use. M. Duplay also administered hypodermic injections of morphia. However, the certainty of the existence of a tumor and of its seat and limits seem to furnish indications for surgical interference. The patient may probably be cured by the removal of the tumor or by multiple subcutaneous sections isolating it from all its connections and rendering it a foreign body in the midst of living tissues."

ART. 183.—*On Thoracentesis in the Treatment of Empyema.*

By M. GOSSELIN.

(*Gazette Hebdomadaire*, No. 20, 1872.)

In some remarks made during a recent discussion at the Academy of Medicine of Paris, M. Gosselin commented on the different proceedings employed for the evacuation of purulent collections in the pleura. Simple puncture, in some cases, results in undoubted cure; but these happy results have been observed generally in infants, in whom the pleura has much more tendency than in adults to regain the properties and functions of a serous membrane.

In the adult, where purulent pleurisy is generally cured only through the adhesion of the two serous layers, one ought not to rely upon puncture for bringing about this result; it should be employed only as a means of diagnosis, and in the treatment of the morbid condition recourse must be had to more effectual means.

In three cases of traumatic purulent pleurisy, and in three others of spontaneous purulent pleurisy, M. Gosselin employed drainage with a slight modification of the practice of M. Chassaignac. This modification consisted in performing the posterior and first opening with a bistoury, in order to afford at once a free issue to pus and false membranes; the second, anterior or counter-opening, was made for the purpose of passing the tube with a trocar. The three cases of spontaneous purulent pleurisy, and one of the cases of traumatic pleurisy, were cured by this means; in the two remaining cases, in which traumatic pleurisy was complicated with fractures of the ribs and afterwards with gangrene of the lung, the patients succumbed.

M. Gosselin attaches to the distinction between spontaneous and traumatic purulent pleurisy a value and importance which have been contested by M. Jules Guérin.

M. Gosselin thinks it necessary to insist very particularly upon the time during which the drainage-tube is allowed to remain in the thorax. It is impossible to assign a fixed limit for this sojourn, the duration of which must necessarily be subordinated to the complete evacuation of the fluid and the obliteration of the pleural cavity. In one case, M. Gosselin was enabled to withdraw the tube at the end of two and a half months. In another patient, the tube was removed for the first time at the end of three months; but, six months later, the pleuritic effusion was reproduced; drainage was then practised again, and kept up for six months. Ten months later there was a second relapse, which necessitated a third application of the drainage-tube. This was continued for eight months. At the end of the year 1867 the patient was discharged as cured, and did not return.

These examples show that surgical drainage, besides constituting a serious proceeding in the treatment of empyema, has not yet been brought to an ultimate stage of perfection, since it does not free the patient from the chances of relapse, and always leaves undecided and uncertain the question of the time required for the process of obliteration of the pleura.

M. Gosselin, in declaring that drainage is a very superior proceeding to incision, still recognizes that, in certain cases, it is necessary to combine these two practices; whenever, for example, one wishes to give exit not only to pus but also to false membrane accumulated in the pleura.

In comparing drainage with the proceeding of M. Potain (puncture with a trocar, introduction and retention of a caoutchouc tube, evacuations and washing out by the siphon system) M. Gosselin attributes to the latter the advantage of avoiding, with certainty, the introduction of air into the cavity containing the purulent collection; but he conceives it to be attended with the serious inconvenience of not allowing the evacuation of false membrane.

M. Gosselin concluded by stating that the choice of operative proceedings in cases of empyema ought to vary according to circumstances, and according to the indications resulting from the nature and consistence of the pleuritic effusion.

ART. 184.—*On the Removal of Both Ovaries at one Operation.*

By T. SPENCER WELLS, F.R.C.S., Surgeon to the Queen's Household, and to the Samaritan Hospital.

(*Diseases of the Ovaries*, pp. 478. London. 1872.)

There can be no doubt, Mr. Wells writes, that the removal of the second ovary does add to the danger of the single operation. Of five hundred cases of completed ovariectomy by Mr. Wells, including both single and double operations, there were 127 deaths, or 25.4 per cent. If we deduct from the five hundred twenty-five cases where both ovaries were removed, this would reduce the number of single operations to 475, and the deaths to 115, with a mortality of 24.44 per cent. But as of the twenty-five cases of double ovariectomy eleven died, the mortality is 44 per cent., or nearly double that of the single cases. This is quite sufficient to show that the surgeon should hesitate and certainly not remove the second ovary without good reason. The author has several times been begged by patients before the operation to remove the second ovary, even if it were healthy and the risk of the operation increased, in order that they might be spared from the possibility of being again subject to similar disease; and medical men have occasionally supported this not unnatural wish of the patient. Mr. Wells has always replied that he should object to the removal of a healthy organ if that removal endangered the success of an operation which was clearly necessary; that as a rule the removal of one ovary would not be followed by disease of the other; that the double operation would necessarily render the woman sterile; and that there might probably be some consequences of the removal of both ovaries, such as an undue deposit of fat, or obscure nervous symptoms, or some change in feminine physiological peculiarities, which would be objectionable if not directly prejudicial. For these reasons Mr. Wells is of opinion that a healthy organ should not be removed from any woman at any age. The amount of apparent disease in any ovary which would justify the removal of the organ may vary with the age and condition of the patient. In a woman past the age of child-bearing a small amount of apparent disease would justify removal of the ovary, whereas a surgeon should hesitate before he condemns a young woman to permanent sterility.

ART. 185.—*On the Treatment of Double Pedicle.*

By T. SPENCER WELLS, F.R.C.S., Surgeon to the Samaritan Hospital, etc.

(*Diseases of the Ovaries*, pp. 478. London. 1872.)

The chief point of practical importance in double ovariectomy, Mr. Wells states, is the mode of dealing with the pedicle. He has once secured both pedicles by one clamp, and has once used two clamps, one on each pedicle, and kept both clamps outside, with no more inconvenience to the patient than if one clamp only had been used, and with a completely successful result. In another case Mr. Wells tried to do this, but the pedicles were too large. He accordingly transfixed them by a large pin and tied both pedicles together behind the pin. The pin thus became a sort of clamp and secured the extra-peritoneal

separation of the pedicle. The author has secured one pedicle by a clamp and the other by ligature, fixing the latter to the clamp, in this way conveniently effecting the extra-peritoneal mode of treatment; and this is the plan he should be disposed to recommend whenever it is practicable. More than once after securing one pedicle by a clamp, owing to the absence of a pedicle to the other tumor, Mr. Wells has transfixed and tied the attachment, cut the ends of the ligatures off short, and left them in the abdomen. He has also treated both ovaries in this manner, and he has, after tying one or both pedicles, brought the ligatures out through the wound. The results are strongly in favor of the extra-peritoneal method of dealing with both pedicles whenever it is possible. Thus of nine cases where both pedicles were fixed outside by one or two clamps, or by applying a clamp on one pedicle and fixing the ligature on the other to the clamp, or using a pin to transfix the pedicles and tying them behind the pin, which thus became a sort of clamp, in either way securing both pedicles outside the abdominal wall, seven recovered and only two died. Of six cases where the pedicle on one side was kept out by the clamp, and the other pedicle tied, the ligature being left in, four recovered and two died. Of six cases where both pedicles were tied and the ligatures left in, four died and two recovered. Of four cases where the ligatures were brought outside, acting as a drain and keeping the lower angle of the wound open, only one recovered and three died. Of those who recovered, one died two years afterwards of hemiplegia, another two years afterwards of cardiac dropsy, and a third six months after operation of peritoneal cancer. Ten were in good health in 1872.

ART. 186.—*Ovarian Dropsy Operated on during Acute Peritonitis.*¹

By RICHARD T. TRACY, M.D., Melbourne.

(*British Medical Journal*, October 19.)

In this paper the author gave an account of a patient aged thirty-one, married five years, the mother of two children: she had noticed the tumor fifteen months. When first seen she was in a hectic condition, with a rapid and feeble pulse, and suffering great pain from the enormous distension of the abdomen. Some relief was at once obtained by tapping and drawing off two quarts of thick colloid fluid (the tumor was multilocular). After the tapping she was removed to the hospital and carefully examined. She measured thirty-eight inches in circumference, nine inches from the ensiform cartilage to the umbilicus, and eight and a half inches from the umbilicus to the pubes. Her stomach was very irritable, and she had to be supported by nutrient enemata. Her temperature was 102 deg.; pulse 120; the abdominal tenderness extreme. As it was evident she would soon sink unless something could be done to relieve her, ovariectomy was performed on March 19th. The tumor was multilocular, semi-solid, and almost universally adherent; the peritoneal surface was deeply congested, much thickened, and full of flaky lymph, which was removed in large quantities. The pedicle was secured with a clamp, and the wound closed by deep silk sutures and superficial ones of horsehair. Two hours after the operation there was a considerable fall in the temperature. On the fourth day there was a large escape of gas and fetid fluid from the wound, and from this time recovery was rapid and finally complete. The author expressed his opinion in favor of bichloride of methylene as an anæsthetic, and recommended the extra-peritoneal treatment of the pedicle by the clamp wherever it was practicable.

¹ Read at a Meeting of the Royal Med. and Chir. Society, Oct. 8.

ART. 187.—*Excision of Part of the Neck of the Uterus.*

By EVORY KENNEDY, M.D., late Master of the Dublin Lying-in Hospital.

(British Medical Journal, August 10.)

The following case is recorded by Dr. Kennedy:—

"Dr. Kitson, of —, brought a patient from the country, suffering from ulceration of the os uteri. The neck was enlarged considerably, and elongated; the ulcer, which impressed us both as presenting all the characters of malignity, occupied about one-third of the neck. It had taken a rapid course, bled at intervals freely, and upon the slightest touch, and was attended with pain, sleeplessness, and marked constitutional disturbance. It was, however, circumscribed and limited to the part ulcerated; the remainder of the neck and os being healthy to the appearance and touch, although larger than natural. The lady had borne children. The part of the neck engaged extended from the posterior along the left side of the os, and the diseased structure appeared to occupy the entire substance of the wall. Under these circumstances, the case promised little or nothing from the application of the ordinary caustics, and the choice appeared to lie between the free application of potassa fusa and excision. The latter was determined on; first, because of the limited extent of the part engaged; secondly, because of the apparent malignancy; thirdly, from the difficulty of destroying by the potass the whole diseased structure, without extending its action to the adjoining vital parts. On the other hand, the diseased structure came well within our view; the neck was long, affording facilities for the use of the knife. The patient was placed on her back. The vaginal wall and labia were distended by four brass tractors, firmly held by Dr. Hans Irvine and Dr. Kitson. An ebony spatula, nine inches long and half an inch broad, was introduced and placed within the os. This I held firmly in my left hand, whilst I introduced the scalpel which I now exhibit, which, you perceive, has a handle seven inches long, while the blade is scimeter-shaped. Cutting from without inwards towards the resisting spatula, commencing near the point of junction with the neck and body of the uterus, above the central part of the diseased structure, by two divaricating incisions A, a triangular section was removed. I was prepared to draw the uterus down with the double tenaculum; but this was unnecessary, from the perfect manner in which my assistants used their tractors. This allowed me the assistance and security of the spatula to cut upon. It has occurred to me that, in a case where excision is preferred, and where the facilities I describe do not exist, the spatula might be armed on the reverse side with two hooks, when it would perform the double office of uterine tractor and spatula, as necessary. The vagina was simply plugged with Ruspini's styptic. There was scarcely any hemorrhage. The patient recovered speedily and perfectly, and in about two years afterwards conceived and carried a living child to the full period. Her labor was easy and natural; and I had an opportunity of examining her at an interval of several years afterwards, when she was quite well, and the uterus, with the exception of the loss of a portion of the neck, was perfectly sound."

ART. 188.—*On Ovariectomy.*

By WASHINGTON L. ATLEE, M.D.

(Medical Press and Circular, July 10.)

At the annual meeting of the American Medical Association, Dr. Washington L. Atlee, of Philadelphia, described in minute detail his own method of preparing the patient, of operating, and of after-treatment. Among the points brought out were these: For evacuating the bowels beforehand, he preferred castor-oil to any other means. As an anæsthetic he always employed a mixture of chloroform and ether, equal parts. During the operation the patient must

be kept warmly covered with blankets, only the abdomen being exposed. Except when compelled to, in very rare cases, he never made the incision more than three inches in length, and he did not think that even extensive adhesions often required a longer one. In examining for adhesions he decidedly preferred using his fingers to sweeping a sound around the tumor, as advocated by Dr. White. For the pedicle he had invariably of late years employed the clamp, and he noted certain advantages in his own form of this instrument. He had once lost a patient by strangulation of the intestine from its adhesion to the stump; and, thinking this accident liable to occur again, he had never since returned the pedicle into the abdominal cavity. As a compress and support for the abdomen, he preferred thick layers of cotton covered by a broad band of muslin. This was soft and warm. His after-treatment was expectant, opium or chloral hydrate being given only when indicated, and by the rectum or hypodermically, if not tolerated by the stomach.

ART. 189.—*Removal of Inverted Uterus by Ligature.*¹

By HENRY HORTON, M.R.C.S.

(*British Medical Journal*, August 24.)

The case was of at least two years' standing. It had been thought to be and treated as polypus, but the ligature had not been applied. At each menstrual period the patient was almost drained to death, and for a very considerable time before removal there had been continual menorrhagia. To remove any doubt of the uterus being inverted, a most careful examination was made, both digital and by speculum. The abdominal parietes were so flaccid that the finger was easily pressed into the os in its inverted position, whilst two fingers of the left hand retained the fundus in a fixed position. There was not a single bad symptom after the application of the ligature; not even the slightest hernia, from which Mr. Horton concluded that there was (if one might use the term) union by the first intention, and that of sufficient strength to enable the obliterated os to bear the weight of intestine in a short time after the operation. The patient was able to walk, perform her household duties, and, in fact, to enjoy her existence in a way which she had given up all hope of ever doing again.

ART. 190.—*A New Method of Treating Hydrocele.*

By S. M. BRADLEY, M.R.C.S.

(*British Medical Journal*, July 1.)

Mr. Bradley states that as the serous tissue of the testicle is, from its physiological nature, liable to take on adhesive action, and that, from the character of the secretion poured out in a hydrocele being inflammatory and not dropsical, it would even be prone to do so, he was led to the inference that simple tapping, followed by firm and equal strapping of the affected side, would probably be followed by an obliteration of the vaginal sac and a consequent radical cure. He tested the accuracy of this reasoning in the case of a medical man with a large simple hydrocele which had been tapped several times, and the last time injected with iodine without success. "After explaining my object to him, I tapped the hydrocele, drawing off half a pint of fluid, and tightly strapped the affected testicle with soap-plaster. This was done at my own house, and the patient walked home, a distance of about a mile, immediately afterwards, and continued to go about during the process of recovery, which probably took place in about ten days; I say probably, as I kept up the pressure for three weeks without allowing the testicle at any time to remain unsupported. This case occurred eight months ago; since then I have followed the same course in three other instances, and in each with an equally satisfactory result. In no case was there any fresh effusion of fluid."

¹ Read before the British Medical Association.

ART. 191.—*A Mode of Operating for Radical Cure of Varicocele.*

By H. B. DAVIDSON, M.D., San Francisco.

(*Pacific Medical and Surgical Journal*; and *New York Medical Record*, October 1.)

Dr. Davidson has adopted a new mode of operating for the radical cure of varicocele, for which he claims three great advantages over any other means:—

First, by perforating only one wall of the scrotum, less pain, less inflammation, and less risk of adhesion of the wounded sac and spermatic cord.

Second, by placing the patient in a recumbent posture when the operation is being performed, so that no blood may be inclosed in that portion of the vein cut off from the circulation, the resultant inflammation will be much less, and the testicle will not swell so much, and absorption will be accomplished in much less time.

Third, by removing the ligature before it cuts through the vein, the risk of phlebitis is lessened, and the patient is enabled to resume his ordinary duties much sooner.

Those who have been operated on have no return of the disease, and it would require a very close examination of the parts to discover that any operation had been performed. In one case the patient had been wearing a suspensory bandage for over ten years, and the left testicle was much atrophied. It is now about sixteen months since the operation, and the testicle has regained its normal size, and the patient has a corresponding increase of sexual power.

ART. 192.—*On the Treatment of Ante-Scrotal Urinary Fistulæ.*

By JAMES R. LANE, F.R.C.S., Surgeon to St. Mary's Hospital.

(*British Medical Journal*, August 24.)

Mr. Lane, in commenting on the address on Surgery delivered by Mr. Pemberton to the British Medical Association, states there is one point referred to by him on which he would beg permission to say a few words.

Mr. Pemberton says: "In reference to the repair of penal and scrotal fistulæ, I would remark that they can alone be treated satisfactorily by the urine being drained through the rectum, or (as in a case which he mentions) through the perineum. Even their union by first intention is a myth; but union may be obtained by keeping the granulating edges together by some artificial means, at the same time that vivacity is maintained in them by the use of the acetum lyttæ."

Mr. Lane entirely concurs with Mr. Pemberton that such fistulæ can only be treated satisfactorily by draining away the urine temporarily through the rectum or perineum; this is, in fact, an essential condition of success; but he demurs to his statement that union by first intention is a myth, and he thinks it would be a matter for regret if this expression of opinion, coming from so trustworthy an authority, should discourage surgeons from attempting plastic operations in such cases, and lead them to rely, in preference, on the uncertain and tedious action of the acetum lyttæ. Mr. Lane believes that union by first intention is obtainable in them, by proper management, with nearly as great certainty as in vesico-vaginal or recto-vaginal fistula.

The following case, which was under Mr. Lane's care ten years since, will illustrate this. A boy, eight years old, was admitted into St. Mary's Hospital with a fistulous opening about a third of an inch long, in the urethra, just in front of the scrotum. It was the result of an incision which had been made a year previously for the extraction of an impacted calculus. Mr. Lane introduced a grooved staff into the bladder, and cut down upon the urethra in the perineum. Through the opening thus made he passed an elastic catheter, and tied it in the bladder. He then denuded the edges of the fistula freely, and in-

serted a sufficient number of silver wire sutures. A splint of thin sheet-lead, with holes in it for the sutures to pass through, was placed over the wound, and the ends of the sutures were fastened with perforated shot outside the splint, after Bozeman's method. The leaden plate and the sutures were left in position till the ninth day; on their removal, it was found that complete union by adhesion had taken place throughout. The catheter in the perineum was therefore discontinued, and the perineal wound healed favorably by granulation, the urine gradually resuming its passage by the natural channel.

Bozeman's leaden plate, which has been discarded by most surgeons as an unnecessary complication in operations for vesico-vaginal fistula, has a very useful application in cases of this kind—in which, indeed, Mr. Lane believes it to be almost essential to success. It is, he writes, of service partly by affording a steady and gentle support to the parts on each side of the line of union, but more especially by keeping the wound gently and uniformly on the stretch in the longitudinal direction throughout the treatment; the main cause of failure when sutures only are used being the shortening and doubling up of the wound, which results from the penis falling down upon the scrotum, and the consequent gaping of the edges in the intervals between the sutures. A full-sized bougie should be placed in the urethra while the sutures are being inserted, to guard against the risk of causing a narrowing of the canal, but it need not, of course, be retained after the operation is completed. Two or three grains of camphor with opium should be given night and morning to prevent erections, and cold lotions should be freely applied for the same purpose. The risk of disturbance of the wound when erection takes place is greatly diminished by the use of the leaden plate.

ART. 193.—*Lithotomy and Lithotrity.*

By GURDON BUCK, M.D., Visiting Surgeon to the New York Hospital.

(*Lithotomy and Lithotrity*, 8vo. pp. 59. New York, 1872.)

This pamphlet gives the histories of fifty patients treated by Dr. Buck for vesical calculus: three by lithotomy alone, five by lithotomy after the failure of lithotrity, and forty-two by lithotrity alone. Nine of the patients died; eight after lithotrity alone, and one after the employment of both methods. The following are the conclusions to which the author's experience has led him with regard to the choice of operation:—

"1. For patients under seventeen years of age, lithotomy should be preferred. . . . The only exception admissible to this rule might be a case not under ten years of age, in which a stone was ascertained, by measurement with a lithotrite, not to exceed one-half to three-fourths of an inch in diameter, and which might, therefore, very probably be gotten rid of by a single operation.

"2. For adults, lithotrity is most advantageously employed when the patient's condition is such as existed in the cases comprised in Groups I. and II. of this pamphlet, to wit: A moderate size calculus coexisting with a favorable condition of the urinary organs and general system; also where a like favorable condition of the local organs and general system coexists with a calculus of large size, but not of hard consistency.

"3. If a calculus be found by the lithotrite to be very hard, and to measure one inch or more in diameter, though at the same time other favorable conditions may coexist, lithotomy should be preferred, as affording the patient the best chance of a good result.

"4. Great difficulty in passing the neck of the bladder with the lithotrite, whether from the enlargement of the prostate or from a fixed position of the stone itself, should deter from the employment of lithotrity.

"5. In a debilitated or reduced state of the system from purulent cystitis and protracted suffering, irrespective of the size of the stone, lithotomy should be preferred. Emptying the bladder instantaneously of its foreign contents, and putting it at rest by draining off the urinary secretion, will afford the patient in such a condition the best chance to rally and recover.

"In a case of stricture of the urethra, its complete cure should be a preliminary step to the employment of lithotrity."

ART. 194.—*Lithotrity in Children.*

By H. GUERSANT, M.D.

(New York Medical Record, Oct. 1.)

Dr. Guersant remarks that his own experience and of all those who have performed this operation is favorable to the employment at all ages, even in children fifteen or eighteen months old, without regard to sex. Lithotrity is always applicable to the youngest children when—First, the calculus is of but small size, being not more than three-fifths to two-thirds of an inch in diameter, and the surgeon is enabled to operate several times—three times at the most. Second, when the general health is good, and the bladder appears to be in good condition and exempt from purulent catarrh. Third, when, above all, there are not more than one or two calculi. Lithotrity is, on the contrary, inapplicable—First, when the calculus is too large (three-quarters of an inch or more). Second, when it is adherent. Third, when it is very hard and mulberry-shaped.

ART. 195.—*Primary Cancer of the Bladder.*

By JOHN ASHHURST, Jun., M.D.

(Philadelphia Medical Times.)

Dr. Ashhurst relates a case of primary cancer of the bladder; the patient being an Irishman, forty-five years of age, and by occupation an engineer. Apart from the rarity of cancer of the bladder occurring as a primary affection, the case presented the subjoined clinical and pathological features of interest.

1st. The absence of pain during the latter stages of the affection, and the entire freedom from hæmaturia, both unusual, were explained by the fact, revealed at the post-mortem examination, that there was no ulceration of the mucous surface of the bladder.

2d. The rapid development and great intensity of the so-called "cancerous cachexia," in connection with the occurrence of pulmonary disease, which was not cancerous, were of interest—illustrating the fact that this cachexia depended rather upon the implication of vital organs than upon the extent and duration of cancer as a special form of new growth; the "cancerous cachexia" is not particularly well marked in cases of uncomplicated cancer of the bladder.

3d. The rapid course of the affection, and its early termination in death before the vesical growth had advanced to the stage of ulceration, were evidently owing to the condition of the lungs—the fatal issue being in fact due to pulmonary disease, and not to vesical cancer.

ART. 196.—*On Puncture of the Bladder.*

By J. WATELET, M.D.

The following are the conclusions arrived at in a pamphlet by Dr. Watelet, on *Puncture of the Bladder with the aid of a Capillary Trocar and "Pneumatic Aspirator."*—

1. The puncture with the capillary trocar is an operation absolutely devoid of danger.

2. It should, in all cases, be used instead of ordinary hypogastric puncture.

3. Besides—and this is most important—it can be done three or four times a day, and thus can take the place of the catheter in places where it cannot be passed.

ART. 197.—*On the Treatment of Hæmorrhoids in Pregnant and Puerperal Women.*

By FORDYCE BARKER, M.D.

(*Medical Times and Gazette*, July 6.)

We transcribe from the *Boston Journal* the principal points of an interesting paper by Dr. Fordyce Barker, "On the Treatment of Hæmorrhoids in Pregnant and Puerperal Women."

As the pressure exerted by the gravid uterus upon the rectum, retarding the return of blood from the hæmorrhoidal plexus of veins to the interior mesenterics, exists in every pregnant woman, some other agent must also contribute to the production of hæmorrhoids in those women in whom they occur. This may be either constipation or diarrhœa. In constipation there is probably the same atony of the coats of the hæmorrhoidal veins as exists in the muscular coat of the rectum, and the pressure of accumulated fecal matter contributes to make these veins varicose, and, if long continued, to develop hæmorrhoidal tumors. The effect of a purgative is to stimulate an abnormal peristaltic action in directly an opposite direction to the returning blood. Some who are subject to piles are never constipated, but have habitually a loose, relaxed condition of bowels, the same atony of the venous coats resulting from the irritation and exhaustion of diarrhœa as exists in constipation. If the hæmorrhoidal veins have become varicose during the latter periods of gestation, the tumors may be developed by the long pressure of the fœtal head on the rectum during labor. The hæmorrhoidal veins sometimes swell enormously at this period, as they are probably weakened by the distension they have suffered during labor, and they regain the power of contracting with great difficulty. In many patients the hæmorrhoids are first developed by the action of the purgative given two or three days after confinement.

The indications in treating hæmorrhoids are to counteract the constipation or diarrhœa, and to stimulate and restore the tonicity of the hæmorrhoidal veins; and for effecting this combined purpose, Dr. Barker believes that aloes is the remedy most to be relied upon. He has now for many years past constantly made use of it, with the best results, in treating the hæmorrhoids of pregnancy, whether these had been the result of constipation or diarrhœa. He prescribes a combination with other agents according to the exigencies of the cases, and in such doses as, from observation of the individual, he finds necessary to secure one easy, free, daily evacuation of the rectum. Some require a grain morning and evening, while for others half this suffices. In the anæmic it is combined with sulphate of iron; and, during the last two weeks of gestation, belladonna is always combined with it. The following formula has frequently been employed: Pulv. aloes soc., sapo. cast., ʒʒ ʒj. ext. hyoscy. ʒss, pulv. ipecac. gr. v. This is made into twenty silvered pills, of which one is taken morning and evening. When there is anæmia a scruple of sulphate of iron is added. About ten days or a fortnight before the expected labor, from ten to twenty grains of extract of belladonna are substituted for the hyoscyamus. When there is an irritable rectum, with frequent small, teasing, thin evacuations, opium should be substituted for hyoscyamus, and a less quantity of aloes given, as in this formula: Pulv. aloes, ext. opii aquos., sapo. cast., ʒʒ gr. x. in pil. xx.

When large hæmorrhoidal tumors present themselves during labor, Dr. Barker treats them by forcible dilatation. After the delivery of the child, and before the removal of the placenta, the patient being fully under chloroform, he pushes back the tumors within the sphincter, if this can be done readily. If it cannot be leaves them there, and introducing both thumbs, back to back, well into the sphincter, he opens them as wide as possible, and draws them through the sphincter. During this time firm pressure on the uterus is made by an assistant; and in several instances the operation has been followed by sudden expulsion of the vagina. The following ointment is directed to be ap-

plied twice a day to the tumors and well up into the rectum : Ung. gallæ c. ʒj, ext. opii aq. ʒj sol. ferri persulph. ʒj. The tumors gradually disappear, and the patients suffer very little from the operation.

When hæmorrhoids come on after labor, they give rise generally to much more suffering than during pregnancy. They are often induced by the action of a purgative, and Dr. Barker became convinced long since that castor oil, wherever there is any tendency to piles, is one of the worst agents that can be used. To those who have hæmorrhoids, or are predisposed to them, he prescribes—Magnes. sulph., magnes. carbon., pot. supertart., sulph. sublim., āā, one, two, or three teaspoonfuls in the morning fasting. This produces a soft evacuation without pain, even when the hæmorrhoids are inflamed; and by procuring a daily evacuation, and using the ointment before named, the hæmorrhoids of puerperal women are soon removed.

ART. 198.—*On Plugging the Rectum.*

By WILLIAM ALLINGHAM, F.R.C.S., Surgeon to St. Mark's Hospital for Fistula.

(*Diseases of the Rectum.* London. 1871.)

Mr. Allingham, in his excellent work on *Diseases of the Rectum*, recommends the following procedure, if secondary bleeding occurs after an operation for piles. When called to a case of hemorrhage, always arm yourself with a full-sized, bell-shaped sponge, and plenty of cotton wadding. Take also some persulphate of iron or powdered alum. Thread a strong silk ligature through near the apex of your cone-shaped sponge, and bring it back again, so that the apex of the sponge is held in a loop of the thread. Then wet the sponge, squeeze it dry, and powder it well, filling up the lacunæ with the iron or alum. Pass the forefinger of the left hand into the bowel, and, upon that as a guide, push up the sponge, apex first, by means of a metal rod, bougie, pen-holder, or a rounded piece of wood, if nothing better is at hand. The sponge should be carried up the bowel at least five inches, the double thread hanging outside the anus. When this is so placed, fill up the whole of the rectum below the sponge thoroughly and carefully with cotton-wool well powdered with the alum or iron. When the bowel is completely stuffed, take hold of the silk ligature attached to the sponge, and while with one hand you pull *down* the sponge, with the other hand push *up* the wool. This joint action will spread out the bell-shaped sponge, like opening an umbrella, and bring the wool compactly together. The plug should remain in at least a week, and it may be retained a fortnight or more.

ART. 199.—*Iliac Abscess.*

By J. FAYRER, M.D., C.S.I., Hon. Physician to the Queen.

(*Medical Times and Gazette*, August 24.)

The pathology of these iliac abscesses is simple enough—a collection of pus under the iliac fascia, either on, in, or beneath the iliac muscle. The causes, however, are not always so apparent, but they seem to be referable to either fever (when no doubt they are the result of capillary embolism due to the hyperinotic condition of the blood) or to other such causes as induce suppuration in septicæmic states; to external violence, strains, or over-exertion; to sudden and perhaps inordinate muscular efforts, in which a muscular fibre, being wrenched from its attachment, tears away a fragment of periosteum, and thus induces superficial necrosis and suppuration in that area, which becomes the nucleus of the abscess. Dr. Fayer has never detected any loose bone in these cases, but the fragment may have been so minute as to escape detection, or, indeed, the suppurative action may have been a result of the disruption of a small portion of periosteum without any exfoliation or death of bone; or it may well be that a combination of these conditions may be the cause in certain

cases, occurring in persons who are afflicted by a malarious state of climate. The treatment is simple, though it is heroic. Exit must be given to the deep-seated matter, or it will find its own way out either through the intestines, the bladder, or the groin, or through the loins, causing caries and all the consequent dangers and suffering; or it may enter the peritoneum and rapidly destroy life by peritonitis—if, indeed, blood poisoning from septic absorption do not terminate life before these events can occur. The earlier, therefore, that an opening be made, the better are the patient's chances of recovery.

The depth at which the pus is situated, and the nature and position of the superjacent structures, render it impossible that marked pointing should indicate its presence. In the earlier stages—the period which should not be allowed to pass without interference—a certain tension, hardness, and fullness of the iliac regions takes its place. This, in conjunction with the history, the presence of fever (not always preceded by well-marked rigors, but sometimes by symptoms that simulate low forms of slight remittent malarious fever), pain of a constant and wearing character, with contraction of the thigh upon or towards the abdomen (in the commencement but slightly so), the general appearance of suffering all this entails, and added, that peculiar feeling, communicated to the educated finger only, of pus lying deeply seated under tissues and a certain amount of œdema of the surface, proclaim the necessity of immediate surgical interference, and Dr. Fayrer knows of no case in which it gives greater or more signal relief. As to the operation, for its completion, an incision through the abdominal wall dividing integument, aponeurosis of external oblique, and internal oblique, and transversalis muscles, must be carefully made. The transversalis fascia being carefully divided, the peritoneum, which is generally thickened, pushed aside, the finger being gently and carefully introduced, the iliac fascia is scratched through with the point of the finger or with a director, and the pus is reached either immediately under the fascia, in the substance of the muscle, or on the bone. The subsequent treatment is that of any other abscess that has been opened.

Dr. Fayrer adds that he has found the use of carbolic acid of service in diminishing suppuration, and favoring the granulation and cicatrization of the cavity.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 200.—*Modified Pistol Splints for the Treatment of Colles's Fracture.*

By P. J. HAYES, M.D., Surgeon to the Mater Misericordiæ Hospital.

(*Dublin Journal of Medical Science*, November.)

Surgical ingenuity has been taxed in providing a variety of means for treating fracture of the lower extremity of the radius, yet Dr. Hayes ventures to offer an addition to the already lengthy list. The apparatus he has devised consists of a pair of pistol splints, one of which, being longer than the other, is for application on the dorsal or extensor aspect of the forearm, and is divided in an almost transverse direction at a point which, when the splint is applied, would correspond to the radius immediately above the wrist-joint; a hinge, fastened along the ulnar border of the splint secures, what he calls, the hand portion to the forearm portion, and by means of a screw, the hand portion can be pronated considerably.

The palmar or shorter splint also possesses a hand portion hinged to a forearm portion; the line of division between them is, however, much more oblique (from the radial edge downwards and inwards) than that in the dorsal splint, so that the lower end of the forearm piece would, when *in situ*, reach a point about two inches above the inferior extremity of the radius; the hand portion of this splint can also be caused to undergo pronation by the movement of a screw. In Colles's fracture there is usually more or less supination and abduction of the hand, consequent upon displacement of the lower fragment of the

radins, and in order to correct such, and, at the same time, bring the fractured surface into fair apposition, the splints Dr. Hayes has described are to be carefully padded, adjusted, and strapped upon the forearm and hand, then by simultaneous movement of both screws, pronation and abduction of the hand can be effected either rapidly or gradually as the surgeon may desire.

The splints are so constructed as to be applicable for either forearm, and need not be kept on the limb for a period longer than a fortnight after the fracture, as some union will have taken place by that time, and then a simpler means for giving support and protection may be substituted.

ART. 201.—Compound Fracture of Radius and Ulna; Wound Sealed by Carbolyzed Collodion.

Reported by J. H. RAYMOND, M.D., late House-Surgeon Brooklyn City Hospital.

(*New York Medical Journal*, May.)

J. F., aged fifteen years, a laborer by occupation, was received into the hospital on the 25th of November, 1871, suffering from a compound fracture of both bones of the left forearm at a point about two inches from the end of the olecranon. The upper fragment of the ulna was protruding through the wound, which was on the anterior surface of the forearm. The fracture was reduced, and the wound closed by a piece of surgical lint thoroughly soaked in carbolyzed collodion; the forearm was put on a straight splint. After three weeks the sealing was removed, and the wound found entirely healed; there was excellent union. On the 11th of January the patient was discharged with a good arm, the case having pursued the course of a simple fracture.

ART. 202.—On Sub-Periosteal Resection of the Elbow.¹

By M. OLLIER.

(*Gazette Hebdomadaire*, No. 19, 1872.)

Sub-periosteal resection of the elbow-joint, which gives in cases of chronic suppurative arthritis results so superior to those obtained by the old method, presents the same advantages in cases of comminuted fracture of the elbow produced by gunshot wounds. Whatever be the disorder produced by the ball, so long as resection is indicated, it is necessary to perform it according to the sub-periosteal method, and, notwithstanding a multiplicity of splinters, one may apply to this operation the fundamental rules of the method. Notwithstanding the splintering of bone and laceration of periosteum, one may preserve a periosteo-capsular sheath sufficient for supplying the elements of a new joint.

M. Ollier utilizes the openings formed by the projectile if these be found in the course of the incision which he has described for resection of the elbow. In contrary cases he makes a fresh incision, carried at first along the external edge of the humerus, and then obliquely from the epicondyle to the olecranon, to terminate at the external border of the ulnar; the articulation having been opened, the operator seizes with forceps the different splinters, and removes from them their fibrous investment. Finally the ends of the bones are explored, denuded of periosteum, and then sawn off.

With M. Ollier a sub-periosteal operation does not consist in more or less regular scraping of the extremities of the bones, and in the conservation of some flaps of periosteum; it is a regular operation which has for its aim the conservation of all the elements of mobility and persistence of the future articulation. He does not pass his knife behind the periosteal sheath, and does not penetrate into the muscular spaces; no muscular insertion is compromised, and by the conservation of the periosteum he obtains the development of osseous

¹ Communicated to the Société de Chirurgie of Paris.

masses which in articulating together assure the reconstruction of a new joint of the same type as the joint removed.

Of eight resections of the elbow made by M. Ollier in the late war, in one the upper limb was amputated three days afterwards by a surgeon who was not aware that an operation had been performed: one patient died from hemorrhage eighteen days after the resection, the ball, which had fractured the joint, having wounded the brachial artery; when M. Ollier saw this patient, thirty-six hours after the accident, the radial pulse was re-established, there was no hemorrhage, and a wound of the artery was not suspected. In the six other cases, three patients were submitted for too long a time to immobility of the arm. M. Ollier found that there was almost complete ankylosis. The three last patients could perform energetic movements of flexion and extension. The consecutive treatment after resection of the elbow is of great importance. It is necessary to keep the limb immovable only during the stage of fever and of inflammation; a silicated bandage well padded, and perforated over the wound, constitutes the last apparatus.

Of these eight operations, some consisted in complete resection, others in resection of but a part of the articular surfaces. He approves of *semi-articular* resections, which remove the totality of one of the articular surfaces, but he rejects *partial resections*, which remove a part of one or the other articular surface, and favor the confinement and retention of pus.

ART. 203.—*The Movement Plan in Elbow-Joint Fractures.*

By W. F. PECK, M.D.

(*Atlanta Medical and Surgical Journal*, July.)

Dr. Peck reports three cases of fractures and contusions of the elbow-joint, to illustrate the benefits of an occasional judicious passive movement for the prevention of ankylosis. In accepting the views of Cohnheim, Recklinghausen, and Simon upon inflammation, the value, or rather the explanation made as a cause of the beneficial results of the treatment recommended, he says, is seen in the pathological operations of the *leucocyte*, which undeniably possesses an independent life, and which plays an important part both in reparative and destructive inflammation. When proper movement of the joint is practised, he states with much boldness that stasis, ending in semi-organization of matter or suppurative inflammation, is much less liable to occur.

ART. 204.—*Ununited Fracture of the Humerus Successfully Treated by Resection.*

Under the care of Professor SPENCE, at the Edinburgh Royal Infirmary.

(*Medical Times and Gazette*, June 22.)

"James W., aged 40, laborer, was admitted into the Royal Infirmary March 7, 1871, suffering from an ununited fracture of the humerus. The original injury was sustained twelve weeks before admission, from a fall upon the ice. The limb was set, but never united. Patient is a healthy-looking man, but of rather intemperate habits.

"March 21.—To-day Mr. Spence made an incision, three inches in length, over the seat of the fracture, exposed the ends of the bone, and, without removing them from their bed of soft parts, cut off with the bone-pliers the rounded extremities of the bones. The arm was then put up in rectangular splints. It need only be remarked further, that the wound healed well, without a single bad symptom supervening. The discharge was never copious, and the bone showed a great tendency to unite from the first.

"On May 9, wound almost healed; bone quite firm; patient gets up every day.

"A few days subsequently he was sent to the Convalescent House, with the

splint still applied, instructions being given him to make passive movement of fingers and wrist-joint. After being at the Convalescent House he returned to show himself. The bone was firmly united; the thickening considerable. He feels it quite strong, but the movements of the elbow are not yet free.

"He was dismissed, but strictly enjoined to continue passive motion and the use of the warm douche, as he had been doing whilst in the hospital.

"*Remarks.*—The foregoing case affords a favorable example of the good results of a method or modification of resection in cases of ununited fracture, which I first practised in a case of false joint of the humerus in 1854. which was published in the *Edinburgh Medical Journal* for that year. In regard to that case I remarked: 'In deciding on resection of the ends of the fractured bone, I determined to remove no more than the rounded and atrophied ends, and to do so with as little disturbance of the surrounding parts as possible. . . . Having often observed, in cases which had come under my notice, in which resection had failed, that fully two inches, or even more, had been removed, it always seemed to me that not only the amount of bone thus removed, but also the great denudation required to effect its removal, might account for the failure, besides increasing the risk of severe constitutional disturbance.' The principle of this method of resection is one in which I have great confidence; and considerable experience in performing it since 1854 has confirmed me in the opinion I then formed."

ART. 205.—*Necrosis of the Upper End of the Humerus following Amputation of the Arm for Injury; Removal of the Dead Bone.*

Under the care of Mr. Wood, at King's College Hospital.

(*Medical Times and Gazette*, October 19.)

The patient was a lad, about thirteen years of age, who had met with a machine accident in August last, which caused a severe compound fracture of the humerus necessitating primary amputation about the juncture of the upper and middle thirds. He recovered well from the operation, but one or two sinuses were left at the inner side of the cicatrix, along which a probe could be passed down to dead bone. Mr. Wood therefore made an incision through these, and after detaching the soft parts with the scalpel he was enabled to withdraw a piece of bone nearly two inches in length, and representing the whole thickness of the shaft.

In his remarks upon the case Mr. Wood observes that it was not at all an uncommon thing to get necrosis following an amputation for a machine accident. In such cases, as in gunshot accidents, the bone is often cracked or fissured some distance higher than the point sawn through in the operation, and when this happens the injured parts almost invariably necrose.

Before commencing the operation he had thought it not at all unlikely that the head of the bone, and consequently the joint, might be affected, but, though the necrosed portion extended to the upper end of the shaft, it had separated at the epiphysal cartilage so as to leave the joint intact. A good deal of new bone had been thrown out around the upper end of the dead portion, which felt very rough to the finger. Tactile sensation is not accurate enough to be relied upon to distinguish new-formed and growing bone from dead bone, and a good plan, when there is any doubt, is to snip off a small fragment with the bone-nippers for inspection. This was done, and the fragment was seen to be healthy and growing by the presence of cartilage at its base. Some of this growing bone was, however, removed, as it was found spreading out towards the position of the brachial artery and brachial plexus, and Mr. Wood thought it a wise precaution to remove all that was likely to excite inflammation or irritation of these structures.

ART. 206.—*On Periarthritis.*

By M. SIMON DUPLAY, of the Hôpital de la Pitié, Paris.

(Gazette Médicale de Paris, No. 37, 1872.)

M. Duplay gives the case of a man aged seventy years, who had suffered from periarthritis, a very common though previously undescribed affection. The patient had received a contusion of the right shoulder, and the pain caused by the injury compelled him to lay up. At a later period he found that he could not move the arm without difficulty, and that a crackling sound was occasionally to be heard in the joint.

It should be stated before proceeding further, that when the shoulder-joint is healthy, the scapula rests immovable when the arm is moved horizontally, and when one impresses on the head of the humerus movements of semi-rotation parallel to the long axis of the body.

In this patient there was nothing of the kind: the right hand could be applied to the head only slowly, and with difficulty, and the scapula was moved with it. When the scapula was fixed, the arm could not be carried beyond the horizontal position. With forcible abduction the hand which confined the scapula could feel this bone slip from below it, and the resistance was overcome. Rotation was almost impossible. The seat of the crepitation could not be well determined. The patient when asked to indicate the seat of pain, traced with perfect exactness the course of the circumflex nerve. During the movements of supination and of extension of the forearm on the arm, he suffered pain over the coracoid process. There was no deformity in the region of the shoulder.

What does this history signify? The case was one of periarthritis. M. Jarjavay has described inflammation of the articular serous pouch succeeding a contusion, but the description and the treatment were restricted to the acute period. An autopsy made by M. Duplay has enabled him to trace out a precise history of this affection.

A man who suffered from manifest periarthritis came under the care of M. Duplay, who broke down the adhesions. The patient shortly afterwards died in the hospital from pulmonary congestion.

The deltoid muscle was slightly atrophied, and of a pale color; the abundant cellular tissue which surrounds the muscle, and which plays the part of a serous sac between its deep surface and the external aspect of the humerus, was transformed into a series of fibrous cords, which were stretched and distended on movement of the arm. The acromio-coracoid sac was traversed in all directions internally by cellular bands; and finally a similar fibrous tissue enveloped the ulnar and internal cutaneous nerves. This explained the sensations which had been experienced by the patient along the course of these nerves.

In this, as in the great majority of cases, the starting-point of the affection had been an injury. In fourteen out of fifteen cases the patients had fallen upon the shoulder.

In one case of periarthritis the immobility of the arm followed an attack of phlegmon.

The symptoms of the affection are impeded movement, crackling in the joint, and pain. In some cases there is deformity due to muscular atrophy.

It may be readily conceived to what errors in diagnosis one may be exposed if the precaution be not taken to strip the patient. It is indispensable to make a comparative examination of both arms, and to put them through all their movements. There is no doubt that mistakes have frequently been committed in the diagnosis of this affection.

There is but one plan of treatment; this is barbarous, but sure. The patient having been placed under the influence of chloroform, the adhesions should be ruptured by moving the arm in all directions. The crackling sound will then be very evident. When once heard it will be found that this expression is not an exaggerated one. On the second day the patient will be able to perform all the movements of the arm. The limb, however, should at first be used

with moderation, and the surgeon will act prudently in directing for some days the gymnastic movements of the arm.

As there is a tendency in this affection to muscular atrophy, the above treatment should be complemented by sulphur baths, shampooing, and, above all, by electricity.

ART. 207.—*Excision of the Left Scapula.*

By SAMUEL LOGAN, M.D.

(*Richmond and Louisville Medical Journal*, August.)

Dr. Logan publishes a case of excision of the left scapula subsequently to resection of the head of the humerus of the same side. He is agreeably surprised at the degree of usefulness of the extremity after such an extensive removal of bone. The patient, male, aged thirty-three years, during convalescence from small-pox, received severe blows on his shoulders, and shortly after began to suffer pain in the left scapulo-humeral joint, followed by caries of the head of the humerus and body of the scapula. Three months after the operation the wound had almost entirely healed, with the following use of the limb: He could lift readily any moderately heavy article; could pull perpendicularly (lifting) 26 pounds, horizontally, 26½ pounds; by simply flexing the forearm (and not lifting with the body) he could raise 14 pounds; could place his hand on either ear or shoulder, but not on back of the neck, and pass his hand over the whole of his forehead and face; he could not carry his hand behind his back, but could readily bring it so as to sweep over the whole chest and face. The cavity left by the operation was filled almost to the level of the surrounding parts with a somewhat hard mass of new deposit.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 208.—*On Functional Impotence of the Peroneus Longus.*

By Dr. DUCHENNE, of Boulogne.

(*Archives Générales de Médecine*, Juillet, 1872.)

"1. There exists a kind of talipes valgus which is occasioned by fatigue from walking or by prolonged standing, and appears only during the exercise of these functions, in a similar manner, for example, as functional spasm of the hand, writer's cramp. This affection I have called *functional valgus*.

"2. In cases of this kind the peroneus longus, rendered powerless by fatigue, by standing or by walking, can no longer depress the submetatarsal prominence (anterior heel) with sufficient force to support the weight of the body. The foot then is applied firmly to the ground only at its external border, and becomes distorted at the calcaneo-astragaloid articulation so as to form a flat-foot valgus.

"3. Functional flat-foot valgus from impotence of the peroneus longus is primarily painless, but shortly afterwards in the second stage the abnormal pressure of the surfaces of the calcaneo-astragaloid articulation excites pain and consecutively reflex contractions of some of the muscles which act on the bones forming this articulation (usually the common extensor of the toes and the peroneus brevis). These contractions disappear with rest.

"4. When the reflex contractions extend to the peroneus longus the flat-foot is converted into a hollow-foot valgus, although this muscle remains impotent during walking and standing. The hollow-foot valgus is apparent only when the foot rests on the ground, for in walking the foot again becomes flat in consequence of the impotence of the peroneus muscle.

"5. Functional flat-foot valgus can, in most cases, be rapidly and easily cured by localized faradization of the peroneus longus. Functional hollow-foot valgus opposes more resistance to this mode of treatment, which, however, seems to me to be the best.

"In some cases of rebellious functional valgus, section of the peronei has given apparently good results.

"6. Adhesion of the peroneal tendons in their fibrous sheath after tenotomy annuls their mutual independence, and the depressing action of the peroneus longus on the first metatarsal bone.

"7. Section of these tendons in their fibrous sheath behind and above the external malleolus, in the treatment of flat-foot valgus from functional impotence of the peroneus longus, aggravates this kind of deformity, by rendering it permanent, and quite or almost incurable by localized faradization of the peroneus longus.

"8. Section of the peroneus brevis ought to be practised near its attachment to the fifth metatarsal bone, and that of the peroneus longus above the fibrous sheath.

"9. Notwithstanding the reduction of the valgus by tenotomy, or by mechanical means, the disorders occasioned by functional paralysis of the peroneus longus still persist.

"10. Notwithstanding most marked valgus kept up by muscular contractions, the pains and disorders produced by functional impotence cease as soon as this muscular impotence has been cured by localized faradization."

ART. 209.—*Popliteal Aneurism Cured by Flexion.*

Under the care of Dr. W. H. STEPHENSON, at the Blackburn and East Lancashire Infirmary.

(*The Lancet*, June 22.)

The notes of the following case of successfully treated aneurism of the popliteal artery have been forwarded to us by Dr. John Maunsell, house-surgeon:—

George P——, aged thirty-four, a laboring man of healthy appearance and sanguine temperament, was admitted into the infirmary March 30th, 1872, with a pulsating tumor in the popliteal region. Nine years ago he had an attack of acute rheumatism. Does not remember having received a blow or other injury to the leg. The first symptoms commenced about two months ago, in January, when he experienced great pain in walking, with a peculiar numb and dragging sensation in the calf of the leg, "as if the leaders were affected." The pain was particularly severe at night, and greatly increased by rainy weather. No tumor or pulsation attracted his attention, and, applying for medical advice, he was treated for rheumatism. He continued to follow his occupation for a month; after this the pain became so constant and unbearable that he was obliged to give up work; he then noticed the tumor, but did not seek admission to hospital until another month had elapsed.

On admission the man had a haggard and careworn expression, due to the constant suffering; otherwise his general health seemed to be unaffected. In bed he lay with the affected leg, the right, upon its outer side, and flexed upon the thigh at an angle of about 20°. He said that this was the easiest position, and that he had been unable for more than a month to keep it in any other. The right knee-joint was swollen, and the veins over it were very prominent. In the popliteal region there was a tumor, the pulsations of which were plainly perceptible even to the eye. It was somewhat larger than a hen's egg, occupying the whole space, and extending downwards; the pulsation was of the usual distensile character, synchronous with the heart's beat, stopping when pressure was applied to the femoral of the same side, and accompanied by a distinct bruit. There was nothing abnormal discovered with the heart or any of the other vessels.

It was determined to treat the aneurism by flexion. On April 3d the method was put in practice. The leg was first bandaged from the foot upwards to just below the tumor; the limb was then flexed upon the thigh as much as possible—until, in fact, the heel was in close proximity to the buttocks—and freely retained there by a figure-of-8 bandage between the leg and thigh. Great pain was complained of, and to relieve this hypodermic injections of morphia were

given. The patient was told to keep perfectly quiet, and was put upon milk diet. The limb was retained in this position for forty-eight hours; examination at that time disclosing the fact that pulsation had entirely ceased, the bandage was removed, and the leg was wrapped in cotton-wool and laid on the outer side, the flexed position being still maintained as much as possible.

From this date everything progressed favorably; the report on April 16th, the eleventh day after, stated that the uneasy sensations of heat, tingling, pricking, etc., always supervening in such cases, had almost passed away; that there was no pulsation in the tumor, the swelling of the knee was greatly diminished, and the expression of the countenance much improved. On April 21st he was allowed to get out of bed; he was then able to walk with a crutch, though considerable thickening remained in the region of the tumor. The patient was kept in hospital a month longer, until May 20th, when he was able to move his knee with more freedom than on admission, and could walk some considerable distance with the aid of a stick, and without any pain. He was seen on June 10th; the thickening had almost disappeared, and he was in every way progressing satisfactorily.

ART. 210.—Dislocation of the Patella on its Edge.¹

By GEO. SOUTHAM, F.R.C.S., Manchester.

(*Medical Times and Gazette*, August 24.)

This accident occurred in a gentleman, aged twenty-two, in good health, and with well-developed muscles, whilst wrestling with some companions in a first-class railway-carriage. The patella was in a vertical position, the outer edge resting on the outer side of the external condyle of the femur, the inner forming a sharp projection at the front of the knee. The skin over it was so tense that the bone seemed as if it would force itself through the integuments if pressure were applied to it. The pain was most excruciating. Chloroform was administered, and the leg raised to relax the extensor muscles. Pressure on each side of the bone was then made, but its position could not be altered. The knee was now bent; and when the leg was at a right angle with the thigh, the bone suddenly slipped into its place. Mr. Southam believes the difficulty hitherto experienced in reducing this rare form of dislocation may be obviated by placing the patient well under the influence of chloroform before any manipulation is attempted; the pain which usually accompanies these cases forming a serious obstacle to their reduction.

ART. 211.—Fracture of the Fibula.

By W. W. KEEN, M.D.

(*Philadelphia Medical Times*, August 15.)

Dr. Keen, in speaking of this fracture, from one to three or four inches above the malleolus, remarks that, so far as his experience goes, external lateral displacement of the foot is by no means so common as is taught in many text-books. In four fractures of this bone in this situation under his care in St. Mary's Hospital, and one in private practice, not one presented any displacement. When a patient presents himself with this accident, and especially if the swelling is great, it is by no means easy to make a differential diagnosis between a fracture of the lower end of the fibula and a bad sprain of the ankle-joint. He desires to recall the attention of the profession to the following sign of such fractures: In the normal condition the astragalus is mortised in between the malleoli so securely that no lateral movement of that bone is possible. When, however, a fracture of the fibula occurs above the malleolus, the ends of the fragments at the point of fracture approach the tibia, or, by grasping the leg at this point,

¹ Read before the British Medical Association.

can be made to approach the tibia, and thus the inter-malleolar space is widened. The result at once is that lateral movement of the astragalus becomes possible. In order to obtain it best, grasp the leg firmly with the left hand at the probable site of the fracture; grasp the foot with the right hand, the palm being applied to the sole, and the thumb and fingers to the astragalus itself; then bring the astragalus next the fibular or external malleolus, and endeavor suddenly to strike it against the internal malleolus, which is firm and immobile. If there be a fracture, the impact of the bones will be readily felt in most instances. One caution must be noted: the lateral movement of the tarsal bones, especially between the os calcis and the astragalus, and the os calcis and the cuboid, must not be mistaken for this lateral movement of the astragalus. The *astragalus* must be seized and moved laterally, and not the foot itself twisted internally.

ART. 212.—*On Gunshot Fractures of the Femur.*

By WILLIAM MACCORMAC, F.R.C.S., Surgeon to St. Thomas's Hospital.

(*St. Thomas's Hospital Reports*, vol. ii. 1870.)

With regard to the treatment of gunshot fractures of the femur Mr. MacCormac says:—

"The first examination should be the only one, and must determine whether an attempt shall be made to preserve the extremity. After that, the less handling or interference of any kind the better. Stromeyer urges that our first care should be to endeavor to save the life of the patient with fracture of the thigh, and afterwards, if possible, to rectify the deformity. . . . There can be little doubt that violent continuous extension of a bullet-smashed femur, combined with frequent handling and readjustment, must prove injurious in the extreme. Stromeyer has almost completely abandoned forcible extension and counter-extension, and prefers simply to lay the limb on the side, in the position advocated by Pott. In my own practice I employ long splints sometimes, sometimes sand-bags, with a small weight merely to steady the limb attached to the foot. In two instances that I know of subsequent deformity was successfully relieved by refracturing the bone. . . . When amputation is considered necessary in these cases, let it be done at once during the first twenty-four hours.

. . . . A very interesting question is raised by Stromeyer in respect of amputations—namely, that we need not amputate clear of the diseased or injured soft tissues in ordinary cases, but may divide the bone, unless split up and inflamed, just at the seat of fracture. The track of a ball or a sinus may safely be left in the flap, and the high division of the bone, which so largely increases the risk, is thus obviated. . . . The considerations detailed in this paper appear to me to afford ground for concluding against the universal application of amputation in regard of gunshot fractures of the shaft of the femur. Sound, though it may be delayed, union will often follow conservative treatment. I think for general guidance we may for the present declare that, in fractures of the lower half of the femur, the rule should be when in doubt to amputate, while in those of the upper half of the bone the converse should apply—namely, when in doubt to try to preserve the limb."

ART. 213.—*Excision of the Hip-joint for Morbus Coxarius.*

By T. CURTIS, M.D., of Middleport, Ohio.

(*Medical and Surgical Reporter*, August 3, 1872.)

Dr. Curtis publishes a case of morbus coxarius, in which life was prolonged by this operation, and believes if the patient had been seen two months earlier it would have been much better for final recovery. He warmly advocates excision after other means have had reasonable time and opportunity to arrest the disease without success, and where there are no very serious contra-indications.

ART. 214.—*A New Plan of Treating Fracture of the Neck of the Thigh-Bone.*

By D. DE BERDT HOVELL, M.D.

(*The Lancet*, November 23, 1872.)

The pain caused by the means usually adopted in order to obviate the eversion and shortening consequent on this accident may be in a great measure avoided by treating the patient on the affected side, and placing the limb in the semi-flexed position, sometimes had recourse to in the treatment of fracture of the leg; in other words, by easily making the position of the body conform to the altered position of the limb, instead of forcibly bringing the limb into its normal relation with the body. This method was recently adopted in the case of an old lady, upwards of seventy years of age, with comfort to her and satisfaction to the author. The hip becoming a little sore, of her own accord she put two or three handfuls of flour under it into the bed; this enabled her to lie more comfortably, and in the course of a few days the muscles concerned, not having been irritated by officious surgery, quietly acquiesced in the patient being placed on her back, the knees and feet being tied together, and, a pillow having been placed under the knees, an excellent recovery ensued.

ART. 215.—*Treatment of Chilblains.*

By Mr. FERGUS.

(*Canada Medical Journal*, June.)

Mr. Fergus recommends sulphurous acid in this affection. It should be applied with a camel-hair brush, or by means of a spray producer. One application of this usually effects a cure. The acid should be used pure. A good wash for hands or feet affected with chilblains is sulphurous acid, 3 parts; glycerine, 1 part; and water, 1 part. The acid will be found particularly useful in the irritating, tormenting stage of chilblains.

ART. 216.—*On Ingrowing Toe-nail.*

By HENRY FINCH, M.D.

(*British Medical Journal*, August 24)

Neither of the cutting operations, Dr. Finch writes, is at all necessary for the complete and rapid cure of ingrowing toe-nail. If a small, thin, flat piece of silver plate be bent at one edge into a slight deep groove, and, after the toe has been poulticed twenty-four hours, slipped beneath the edge of the nail, so as to protect the flesh from its pressure, and the rest of the thin plate bent round the side and front of the toe, being kept in position with a small portion of resin plaster passed round the toe, a speedy and almost painless cure will take place; and the patient, after the first day, has the additional advantage of being able to walk. Dr. Finch has followed this method in numerous cases with uniform success.

ART. 217.—*Treatment of Ingrowing Toe-nail.*

By C. F. MAUNDER, F.R.C.S., Surgeon to the London Hospital.

(*British Medical Journal*, July 20.)

There are three cutting operations, Mr. Maunder writes, either of which can be resorted to for the relief of this disease: 1. Evulsion of the nail, which only affords temporary relief until a new nail is produced. 2. Removal by the

scalpel of the matrix with the bent nail. 3. Removal of the overlapping integument in which the side or sides of the nail are buried. This latter is the least severe method, and recovery is not protracted. The integument having been cut away freely from the side of the toe, there is no longer any material left into which the nail can be pressed, and so the disease is cured and cannot be repeated.

ART. 218.—Ingrowing Nail.

By BENJAMIN BLOWER, M.R.C.S.

(*British Medical Journal*, Sept. 21.)

Mr. Blower desires to add a mite to the evidence repeatedly given that the removal of the nail is unnecessary.

About twenty years ago he applied a bit of compressed sponge to afford temporary relief, and was delighted to find that it effected a radical cure. He makes the sponge as solid as leather, by wetting and then winding string very tightly round it, and drying it thoroughly. Of this he cuts a small pyramidal piece, less than a grain of rice. This he inserts beneath the nail, and secures it by strips of adhesive plaster, applied longitudinally, to avoid compression. The sponge soon becomes moist and swollen, keeping the nail from the irritated flesh. Any granulations should previously be destroyed with strong nitric acid. Mr. Blower has adopted this plan upon many occasions, and has never found it to fail.

ART. 219.—Case of Caries of the Astragalus.

By E. M. MOORE, M.D.

(*Medical and Surgical Reporter*, July 22.)

At the June meeting of the Central New York Medical Society, held in Rochester, Dr. E. M. Moore read the history of a patient, a case of chronic suppurative of the ankle-joint, which proved to be "caries of the astragalus." This was removed by crushing the bone and removing the fragments. The wound not healing perfectly, it was reopened, and the diseased end of the tibia removed. The patient then exhibited the joint, which was a good one. The deductions made by Dr. Moore were, that in similar cases, and those of compound dislocation of the ankle-joint, the removal of the astragalus would be the course which he would pursue.

ART. 220.—On Luxation of the External Semi-lunar Cartilage.

By M. SIMON DUPLAY, of the Hôpital de la Pitié, Paris.

(*Gazette Médicale de Paris*, No. 39, 1872.)

The subject of this rare and curious lesion was a soldier, aged twenty-seven years. Some months before admission he had a fall; the affected knee did not strike the ground, but was subjected to one of those sudden movements which produce a sprain. A crackling noise was produced and the joint swelled.

"He was admitted into the hospital at Arras, and was treated there for three months by tincture of iodine, blisters, and the cautery. The injury had been followed by manifest inflammatory symptoms.

"The patient was discharged as cured. When a prisoner in Prussia he had another fall of a similar kind, and again heard a crackling noise in the same joint. He was treated in several hospitals, but received no benefit.

"On the patient's admission under M. Duplay, the leg was straight and normal in form and external appearance. No effusion nor trace of effusion. Elevation of local temperature, which is very rarely absent in cases of chronic disease of the knee, was not discerned in this instance.

"Here there was no reason for suspecting hydrarthrosis or fungous arthritis. These affections speedily impair the movements of a joint; in this case, the movements of the affected knee had been preserved.

"In moving the patella over the condyles, M. Duplay could feel the friction of dry and unequal surfaces, an indication of a loose cartilage. When the leg was more than semi-flexed, crackling could be felt, and a foreign body protruded forward. This could not be made out by any mode of examination.

"What was the nature and origin of this body?

"Articular foreign bodies have been very felicitously named *atrophytes*. They may occur, as is well known, as accessory and normal phenomena of dry arthritis. The cartilages disappear, or are hypertrophied and become detached, and, at the same time, the ligaments become incrustated. In this way the foreign bodies are formed. The articular insertions of the hamstring muscles often become ossified.

"This form cannot be considered here.

"There is a second variety of *atrophytes*.

"They may be met with in the number of two or three in a perfectly sound joint. They may be readily dislodged. They result generally from an injury, a violent effort in which a fragment of bone is detached from an articular surface.

"In this case there was nothing of the kind.

"In the third place, we have luxation of the semilunar cartilages more or less simulating the above lesions. The existence of this lesion may very reasonably be admitted here, although it cannot be absolutely asserted. It is very important to establish the diagnosis in these cases, as upon it the treatment depends.

"M. Duplay gives the following explanations:—

"1. The protrusion is invariably perceived at the superior and external part of the tibia.

"2. Foreign bodies cannot be discovered on the most minute examination.

"3. Everything leads one to conclude that an integral portion of the joint becomes displaced, and then regains its position as soon as it has passed over a grating surface.

"4. The grating surface is the femoral condyle which, together with the patella, has been altered in consequence of deforming arthritis of the first degree.

"5. The protrusion, which takes place at semi-flexion of the leg, cannot be anything save the semi-lunar cartilage.

"Sir A. Cooper investigated luxation of these cartilages and the mechanism of their reduction. They ought not to be mistaken, lest the surgeon should be induced to open the joint.

"M. Duplay rejected the idea of surgical interference in this case, and has not forced the knee.

"This form of arthritis invariably follows an advancing course; it is necessary, then, to allow the patient to perform those movements which the joint still possesses. Moreover, after a certain time the articular surfaces become habituated to their normal conditions. In this case, M. Duplay prescribed, as palliative means, a bandage to the leg, cold sulphur douches, and the internal administration of iodide of potassium."

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 221.—*On Spurious, Feigned, and Concealed Pregnancy.*

By THOMAS MORE MADDEN, M.D.

Dr. Madden, of Dublin, in a pamphlet on the above subject, gives the histories of several interesting cases illustrating the above conditions. Under the first division, or pseudocystis, the author remarks the frequency with which we find most of the ordinary symptoms of true pregnancy counterfeited, and draws attention to the fact that the abdomen usually increases in size more rapidly than in true pregnancy. This enlargement may generally be traced to dropsical effusion into the peritoneal cavity, to the tendency to a deposit of fat in the omentum about the period of the change of life, or to accumulation in the intestines of flatus or fecal matter. In almost every case he has noticed the patient has asserted that she could distinctly feel the movement of the fœtus; and such symptoms as "longings," alteration in tastes, irritability of temper, neuralgic pains, enlargement of breasts, turgescence and coloration of nipples, and even secretion of a lactescent fluid are not uncommonly present. However closely the symptoms of pregnancy may be simulated before the fifth month, the positive signs cannot be counterfeited after this date. Physical examination, he thinks, affords but doubtful help in the diagnosis, since the absence of sounds of placental souffle and fœtal heart is no evidence that the womb does not contain a fœtus. He is disposed to place more reliance on a manual examination of the surface of the abdomen, the muscles being relaxed, and digital exploration per vaginam.

He gives two cases in which the pregnant condition was obscured by disease; and, under the head of "Concealed Pregnancy," calls attention to the necessity of ascertaining before any operation upon the uterus is undertaken, especially before a resort is had to the uterine sound, that the organ is not gravid; it having come to his notice that women, knowing or suspecting themselves to be pregnant, have secreted the fact from the physician with the intention of throwing upon him the onus of having produced an abortion by the use of this instrument.

ART. 222.—*Contributions to the Clinical History of Affections of the Heart and Vessels in the Puerperal State.*

By Professor HERMANN LEBERT.

(*Archiv für Gynakologie*, iii. 1, 1871; *Schmidt's Jahrbücher*, No. 4, 1872.)

In an appendix to Spiegelberg's work on the complication of the puerperal state with chronic affections of the heart, Professor Lebert remarks that chronic endocarditis with valvular defects not unfrequently occurs in girls in the second half of childhood, and more often in them than in boys of the same period of life. These affections, which generally consist in disease of the mitral valves, are developed after acute articular rheumatism and chorea, or often come on insidiously, and then sometimes without causing much disturbance. Puberty not unfrequently acts favorably on these affections, as by this condition the circulatory disturbances may be restrained; some cases, however,

terminate fatally just before or soon after puberty. Congenital defect of the right side of the heart is a rare event. Professor Lebert has seen but one case; in this the cause of death was congenital stenosis of the aorta near the ductus botalli. Professor Lebert advises against marriage in cases where compensation-lesions are present, because upon these lesions the conditions of pregnancy and lying-in may act very unfavorably. Not only do the compensation-lesions come on more readily, more rapidly, and with greater intensity during pregnancy, but the valvular endocarditis, which may be developed in the second half of pregnancy, shares with puerperal endocarditis a tendency to breaking up of deposit and the formation of secondary emboli. The three following cases are reported by Professor Lebert as examples of this:—

CASE I.—The patient, a pregnant woman twenty-one years of age; acute articular rheumatism in the fourth month of pregnancy; signs of mitral endocarditis; repeated attacks of shivering; symptoms of embolism in the left upper and in the right lower extremities; abortion; death from pulmonary œdema. *Autopsy.* Endocarditis with ulcerative breaking down of mitral valve, embolic plugging of the subclavian artery, the termination of the aorta, and the commencing portions of both common iliacs.

CASE II.—The patient, a woman thirty-six years of age, just delivered for fourth time; child dead; in the evening strong shivering, severe puerperal fever, intense dyspnoea with abundant rhonchi and a bellows-sound over the tricuspid valve; death. *Autopsy.* Suppurative inflammation of the tricuspid valve, a large embolus in the right branch of the pulmonary artery, with suppurative inflammation of the same.

CASE III.—Patient twenty-four years of age; an abortion fifteen months before; afterwards two abortions at the sixth month of pregnancy; peritonitis on the left side, at a later period left side, and then right side pleurisy, and symptoms of more profound inflammation; swelling of the right knee and left elbow joints; death in twenty-four days. *Autopsy.* Embolism of pulmonary artery, double pleurisy, gangrene of the right lower pulmonary lobe, thrombus in the inferior vena-cava, plugging of the left renal vein, periovaritis on the left side, periuterine suppurative phlebitis, endometritis, suppurative inflammation of the right knee-joint, chronic ulcer of duodenum.

In puerperal pyæmia and septicæmia the mechanico-embolic mode of extension of process has, according to Professor Lebert, been thought too much of, whilst the inflammation of the venous walls—purulent phlebitis—has, on the other hand, been too little regarded. Multiplicity of the inflammations in the puerperal state exists not unfrequently without any evident dependence on continuity; the actual lesion may be produced through molecular detritus as well as through thrombotic and embolic infarction, to which Professor Lebert opposes a non-infecting plugging through thrombosis and embolism and their results. Professor Lebert thinks that no light will be thrown on this obscure subject before every exclusive theory has been renounced, and before one has ceased to confound under the name of puerperal fever a number of pyæmic processes which should be separated. One must by puerperal fever either understand quite generally *every* febrile process occurring in the puerperal condition, or quite specially only endocarditis with metrophlebitis and septicæmia.

ART. 223.—*On the Treatment of some Forms of Extra-Uterine Pregnancy.*¹

By **ALFRED MEADOWS, M.D., F.R.C.P.**, Obstetric Physician at St. Mary's Hospital.

(*The Lancet*, November 23, 1872.)

Relating a case of the so-called ventral variety, he referred to some remarks made by him, and published in the last volume of the *Transactions*, in which he advocated more frequent resort to the operation of gastro-tomy in certain cases of extra-uterine gestation, the object of the operation being to anticipate,

¹ Read at a meeting of the Obstetrical Society of London, Nov. 6.

and so to avert, the almost inevitably fatal rupture of the cyst and death from hemorrhage. In the former communication the suggestion was also made that, with a view to prevent one of the great dangers attendant upon this operation—viz., hemorrhage—the placenta should not be removed, but should be left to undergo the slow but sure process of atrophy and absorption, it being argued that, as by the removal of the fœtus there is no longer any physiological necessity for that structure, its removal by atrophy might fairly be reckoned on. The present communication was based upon another case of so-called ventral pregnancy, which, coming under the author's care during his absence, had been seen by two of his colleagues at the Hospital for Women, Dr. Spencer and Mr. Scott, and a living child at about the seventh month was removed. The attempt, however, to remove the placenta, which was situated deep down in the pelvis, and the fœtal cyst was attended by such frightful hemorrhage that the patient succumbed in a few hours. Dr. Meadows now contended that in all cases where the diagnosis of a living and a viable child could be made out, gastrotomy ought to be performed; and that in order to facilitate the operation, and at the same time to diminish its danger, both the placenta and the containing cyst should be left *in situ*, special care being taken not to detach any portion of the placenta. In this way the operation might be reduced to a very simple process, and the chief care should be, first, to extract a living child, and then to do as little damage as possible to the remaining structures, thus preventing hemorrhage, and enabling them afterwards to undergo the process of atrophy and absorption, just as occurs in some cases where, no operation having been performed, the fœtus has died, been mummified, as it were, and finally been absorbed.

ART. 224.—On the Secondary Signs of Pregnancy.

By Professor C. HENNIG, of Leipsic.

(*Memorabilien*, xvii. 1, 1832; *Schmidt's Jahrbücher*, No. 6, 1872.)

The less certain and secondary signs of pregnancy are of special consequence, for the reason that in the early months of pregnancy, when the signs of the first rank are absent, they are the only obtainable phenomena. These secondary signs may be divided into those that are essential and those that are non-essential; to the former belongs distension of the fœtal coverings—ballonnement, which is never absent, but which, during the early weeks of pregnancy is indistinct. In cases of extra-uterine pregnancy may be observed a simultaneous increase of the abnormal coverings of the fœtus, and a sympathetic increase in size of the uterus, which progresses equally with the former until the end of the third month. With flexion or version, and also with hypertrophy of uterus, the ballonnement occurs earlier, and is more evident.

To the second division of those signs which may be absent, or which may be present, when there is no pregnancy, belong—(1) relaxation of the vaginal portion of the womb; this was absent in one-tenth of the cases registered by Professor C. Hennig, and in these exceptional instances the woman had suffered from parametritis in previous confinements; (2) the transition of the os uteri from a transverse slit to an orifice of a rounded form; this frequently fails, especially in multiparæ; (3) the murmur of pregnancy, which is first heard after the third month; this murmur is not always necessarily transferred to the iliac and epigastric arteries, but in many cases to the uterus itself; (4) the bluish red or brownish red coloration of the vaginal portion of the womb and of the upper portion of the vagina; this coloration is sometimes limited to the os uteri; in hypertrophy of the pregnant womb it may be quite absent; Professor Hennig has not infrequently observed this condition during a catamenial period in a non-pregnant woman.

According to Nægele and Luschka, after one or more labors the uterine cavity loses its triangular form and becomes oval, with which change the upper border, according to Nægele, and the lateral borders, according to Luschka, remain convex invariably. Numerous post-mortem examinations have convinced Professor Hennig that in the seventh week after delivery the cavity of

the body of the womb again presents the form of that of the virgin. The coronal as well as the sagittal segment of the cavity is oval whether the woman has been pregnant or not, when the uterus, especially in consequence of contracted or closed os uteri, contains viscid fluids or incloses a morbid growth.

ART. 225.—Chloral Hydrate in Puerperal Convulsions.

By E. MONTGOMERY, M.D.

(*St. Louis Medical Journal and Medical Press and Circular*, October 16.)

Dr. E. Montgomery, of St. Louis, in the *Journal* of that city, gives a very good article on the use of chloral hydrate in puerperal convulsions. We think the more highly of it in that, while adopting a new remedy, he does not throw aside all the treasured experience of the past. He sees a proper use for venesection, active purgation, and the application of cold to the head—reserving them, however, for suitable cases, and mollifying their action by the sedative effects of chloral. He prefers the chloral to chloroform, and would give it “per rectum” when it cannot be retained in the stomach. He protests against severe or forcible means being resorted to to produce labor, but would assist by the forceps or otherwise when possible with safety to the mother and child.

ART. 226.—On the Inhalation of Chloroform in Parturition.

By the late Sir JAMES Y. SIMPSON, Bart.

(*Anæsthesia, Hospitalism, &c.* Edited by Sir W. G. Simpson, Bart.)

The following is Sir James Simpson's summary of rules for the exhibition of chloroform in parturition:—

“1. Begin the inhalation of chloroform when the patient complains of much pain. This is generally towards the end of the first stage.

“2. Always inculcate perfect quietness around the patient, particularly when commencing to give the chloroform.

“3. Only give it during the pains, and withdraw it during the intervals.

“*Exceptions.*—Give a whiff of the chloroform also during the intervals when the pains are very severe and the patient awakes complaining of them. Give small doses, or only repeat them every second or third pain, when the chloroform affects the action of the heart or uterus. These cases are very rare.

“4. When given during the first stage the anæsthesia need not be deep, unless the suffering be great or the symptoms of anæsthesia disagreeable.

“5. As the second stage progresses make the anæsthesia so complete as to destroy all sensibility.

“6. Do not allow the urinary bladder to become over-distended.

“7. Do not restrain the patient in one position.

“8. Be sure to remove the chloroform as soon as the child is born.

“9. Do not awake the patient artificially.”

ART. 227.—On the Influence of Neighboring Organs on the Position and Involution of the Puerperal Uterus.

By Dr. WILHELM PFANNKUCH, of Marburg.

(*Archiv für Gynakologie*, iii. 1872; *Schmidt's Jahrbücher*, No. 7, 1872.)

1. The uterus, during the lying-in and also before the puerperal period presents generally a bending of the fundus to the right side, with rotation of the posterior border forwards: this disposition is already consummated in the foetal condition, and is, indeed, to be referred to the first development of the pelvic viscera.

2. This disposition is favored during extra-uterine life, by the pressure of

the viscera, especially of the rectum, and by the effects of gravity with right-side decubitus. This latter cause acts especially during pregnancy and the lying-in.

3. When the bladder of a lying-in woman is filled, it presses the uterus upwards and to one side.

4. This effect may be produced by a relatively small quantity of urine (about 70 cubic centimetres).

5. The separation of the fundus from the symphysis and also the angle of lateral deviation generally increase in direct proportion to the distension of the bladder. On an average 100 cubic centimetres of urine elevate the uterus by one centimetre.

6. Large quantities of urine elevate the uterus to a relatively less degree than small quantities, in consequence of the increasing lateral deviation and the less rapid increase in volume of the bladder.

7. The lateral direction of the uterus is, as a rule, to the right side, because from the first it lies more or less on the right side, forcing the bladder over towards the left side. Here gravity, according to decubitus, has great influence, and may readily reverse this relation of phenomena.

8. Distension of the rectum above the sphincter elevates the uterus, and therewith favors bending towards the right side. The chief cause, however, is always the disposition acquired through the development of the uterus, and next to this there is the influence of gravity.

9. The post-partum enlargement of the uterus is apparent, and, when there is no hemorrhage, is caused by filling of the bladder.

10. In normal involution, the uterus diminishes continuously without any important deviations in position. Certain disturbances may affect this process of involution, and then deviations in position may occur as complications.

11. Retention of urine by itself gives rise neither to after-bleeding nor to faulty involution during the lying-in; when both these are present together the common cause generally lies in the course of the pregnancy and birth. It is at the most an occasional cause with relaxed uterus.

12. Even after the completion of involution the dependence of the uterus as to disposition of the degree of repletion of neighboring organs may, though in a modified manner and to a slight degree, be still made out.

ART. 228.—*Pressure upon the Perinæum in Labor.* .

By H. PLUMMER, M.D.

(*American Practitioner*, August, and the *Medical Record*, September 16.)

Dr. Plummer confesses that he is not able to see how pressure upon the perinæum in any way averts the danger of its laceration, but can understand how it may favor such an accident. The parts are already on the stretch from the descending head of the fœtus when the strain is increased upon them by pressure from without. In this way it seems to him probable many lacerations are brought about. They are said to be unknown among savage mothers. They are not often encountered in girls who, desiring to conceal their shame, give birth to their children alone and unaided. They seldom occur among the laboring classes, who for the most require and receive but little obstetrical assistance. It may be doubted whether any amount of pressure that can be safely applied against the head of the child will retard its descent; nor is he convinced that any external pressure facilitates the process of labor, except that it may turn away the head from the perinæum when impinging with dangerous force against it, and give the child the proper direction. It is often very disagreeable to the woman, and when so ought certainly not to be urged upon her. The whole process of parturition is one usually so natural that in a vast majority of cases it may be well left to the efforts of nature.

If any assistance were necessary he would prefer to rub forward the corrugated scalp, in the absence of pain, and to introduce the fingers into the rectum, assist in raising the head, and make it as far as possible hug closely the

pelvic bones. When the pain subsides the head may be pushed back. By this means the pains are lengthened and the time prolonged, so that the parts may become fully dilated.

ART. 229.—*Palpation in Obstetrics.*

By JAMES R. CHADWICK, M.D.

(*Boston Medical and Surgical Journal*, August 22, 1872.)

Dr. Chadwick, writing from Vevey, Switzerland, gives the subjoined chief advantages in favor of palpation as practised in Germany: 1. That by it the period of the pregnancy may be approximately estimated. 2. That the diagnosis of the foetal presentations and positions may be made during the later months of the pregnancy and the first stage of labor, when internal examination yields very meagre results. 3. That twins, extra-uterine pregnancy, the death of the foetus, the size of the foetal head, complicating tumors, and many other conditions may by it be recognized long before the vaginal examination would reveal them. 4. That the external examination may be made many times and by many persons without any risk of doing harm. On this account it recommends itself especially for purposes of instruction. *In the way of treatment* version can be performed by external manipulation with much greater chance of success than by the internal; and with this gain to the mother, that the danger of inflammation and rupture of the uterine walls is reduced to a minimum; that in case of hemorrhage or other threatening symptom turning by external manipulation may be resorted to, if thought expedient, much earlier than the old method; and to the child, that it thereby escapes the greater mortality attendant upon breech presentations.

ART. 230.—*Prediction of Sex in Utero.*

By T. J. HUTTON, M.D., Resident Physician to Long Island College Hospital.

(*New York Medical Journal*, July.)

Dr. Hutton, in substantiating the assertion advanced by Tyler Smith and others—that not only can pregnancy, in its advanced stages, be determined by auscultation, but also the presentation, position, and sex of the foetus *in utero*—submits the following essential points from the clinical records of seven cases as a proof of the practicability and reliability of this rule: Foetal pulsations, heard below a horizontal line dividing the uterus into two equal parts, denote vertex presentation; above it, breech presentation; below it and to the right second position. When the foetal pulsations number 144 per minute it is a female; 124 per minute, male. As deviations from this rule, or average, will doubtless be encountered, he ventures to add that a variation of *six beats per minute* from 124 upward or from 144 downward will not endanger a diagnosis, provided auscultation be practised in the *ninth month of pregnancy*. In his cases this rule was his sole guide, and without a single failure.

ART. 231.—*Recurrent Discharge of Fluid from the Uterus During Pregnancy.*

By D. DYCE BROWN, M.D.

(*British Medical Journal*, May 25.)

Dr. Brown records an interesting case of this in a lady, pregnant about four months, who, after rather more exertion in walking than usual, was awakened in the middle of the night from a sound sleep by feeling a gush of fluid from the vagina, which, on inspection, seemed the liquor amnii just tinged with blood. After this gush there was nothing more in the way of discharge that night,

and only a slight feeling of uneasiness in the uterine region. Dr. Brown kept her in bed by way of precaution, but nothing further occurred till that day week, when the same discharge returned, and in the same manner. After another week it again returned as before, and with the same reddish tinge. Before each discharge there was a feeling of fulness and distension in the uterine region, followed by a feeling of uneasiness, which soon disappeared. The movements of the fœtus were now distinctly felt; the os uteri was slightly open. After this time the discharge came on every two, three, or four days, and increasing in quantity. When she was about five months advanced, along with the usual discharge of clear fluid, there came an alarming quantity of blood in the middle of the night. The blood likewise came in a gush; so that after what might be supposed to have lodged in the vagina had come away there was no further hemorrhage. Nothing else was felt by the patient than the usual temporary uneasiness. For the next month the watery discharge came nearly every night, in such quantities as frequently to soak a couple of towels. At the time of hemorrhage there was no alteration in the os, and no evidence of partial attachment of the placenta on the os. Exactly one month after the former hemorrhage her pulse became quick and face flushed, and Dr. Brown predicted either a return of hemorrhage or a miscarriage, but soon afterwards labor came on and she was delivered of a six months' fœtus. The amniotic sac was felt, as usual, full and tense, requiring rupture, after which a large quantity of amniotic fluid escaped. During all this time Dr. Brown kept his patient in bed. The fluid in this case could not have been amniotic, as, from its continuance and profuseness, labor must have come on sooner, while the presence of the sac entire at labor requiring to be ruptured proved it.

At the next pregnancy, at about the corresponding period of advance of gestation, the same fluid again came away in the middle of the night in a gush. Having found on the former occasion that no effect in warding off the miscarriage was produced by keeping the patient in bed, Dr. Brown allowed her to rise, but requested her to keep the sofa for a week. At the end of this period the discharge occurred as before. She then rose and went about as usual, but there was no further return of the discharge, and she went safely to term. She is at present pregnant a third time, and a third time has the discharge come on at the same period of pregnancy as at first. This time the patient would not even keep the sofa for a day, and there has been no return of the discharge. This is more than four months ago. There had been no exertion or fatigue to account for the last discharge.

ART. 232.—*Rupture of Membranes during Pregnancy.*

By W. H. CAMPBELL, M.D.

(*Boston Medical and Surgical Journal.*)

Dr. Campbell records the case of Mrs. H., aged twenty-two, who, in her second pregnancy, applied for relief from excessive vomiting. She stated that she was in her sixth month, and had vomited from the commencement, but could always retain some portion of her food till lately, and at the present time she vomited everything she ate. Dr. Campbell tried various remedies with no success; and at last, after consulting with another physician, he proceeded to induce premature delivery. On the evening of May 30th he passed a sound into the uterus and ruptured the membranes. She vomited less that night, and next morning could retain food well. She improved from day to day, but no signs of delivery were manifested. On the afternoon of June 10th, however, twelve days after puncturing the membranes, she was delivered of a child which lived after birth about six hours. In this case the fœtus remained alive and well for twelve days after the discharge of—at least a portion of—the amniotic fluid. Another point of interest was the relief obtained, the vomiting ceasing as soon as the contents of the uterus were disturbed and before they were fully expelled, and long before the separation of the placenta.

ART. 233 — *Portion of Placenta thrown off in Pregnancy.*

By EVORY KENNEDY, M.D., late Master of the Dublin Lying-In Hospital.

(British Medical Journal, August 10.)

The following case is narrated by Dr. Kennedy: "A lady in the seventh month of her fifth pregnancy was seized with hemorrhage, ascribed to over-exertion. There were no labor pains. On examination a portion of the placenta was found protruding through the os uteri. The hemorrhage continued for several days, but to no serious extent; and still there was no labor. At length, foetid grumous discharges, mixed with a little blood, occurred, attended with sense of downward pressure. The portion of placenta descended lower in the vagina; its connection with the interior of the os separated; and I removed it with very little assistance. As no increase of hemorrhage occurred from this I thought it unnecessary to plug the vagina. The hemorrhage and discharge ceased, and the patient went on without any inconvenience, except the precaution of keeping the horizontal position for six weeks longer, when she was delivered of a living boy apparently at or near the full time. The edge of the placenta that remained could not be felt near the os, and the portion that came away consisted of the vascular structure without the reflected membranes. There was no discharge of liquor amnii until the labor set in."

ART. 234.—*On Irregular Contraction of the Uterus.*

By Professor TRENHOLME.

(Medical Times and Gazette, August 31.)

At a meeting of the Obstetrical Society of London, July 3d, Professor Trenholme, of Montreal, read a paper "On Irregular Contraction of the Uterus," and stated that in such cases he had found adhesions existing between the decidua and the uterine surface at term. The production of this form of contraction and its consequent results were attributed to laceration of the muscular fibres at the points of adhesion, the parts lacerated acting, during attempts at contraction, as direct excitants of the spasms of the walls of the organ. When the adhesions were near the os uteri they not only prevented its dilatation, but also rendered the contents of the womb unable to elongate and adapt themselves to the diminished capacity of the cavity, and they neutralized the efficiency of the contraction. When the adhesions existed on one side, the vaginal pouch of waters was formed by the membranes of the opposite side, and this in its turn necessarily forced the neck of the womb to the side on which the adhesions existed. In some rare cases adhesions were found between the neck of the uterus and the vagina, which affected labor in a similar way. The treatment recommended was to pass the finger gently between the united surfaces and effect their separation. When the adhesions were beyond the reach of the finger, rupture of the membranes should be resorted to, for the purpose of allowing the child's head to glide over the decidua, since the adhesions prevented the natural passage of the membranes over the surface of the uterus. Attention was drawn to the fact that in all probability the determining cause of labor at term was due to the separation of the decidua having taken place to such an extent that the contents of the womb acted as a foreign body, and thereby induced efforts at expulsion. Hour-glass and other irregular contractions of the womb after delivery were attributed to the same cause as produced irregular contraction during the first and second stages of labor.

The President (Dr. Braxton Hicks) considered Dr. Trenholme's paper opened up a new point for clinical investigation. He had no doubt that the adhesion in retained placenta determined the position of irregular uterine contractions. But there was also a condition which was not dependent on placental adhesion. He had several times noticed in passing the hand within the

uterus that the walls would be in one part hard and firm, at another relaxed and flabby; and then gradually the firm part became relaxed, while the relaxed part would become firm.

ART. 235.—On Post-mortem Parturition.

By JAMES H. AVELING, M.D.

(*The Lancet*, July 27.)

At a meeting of the Obstetrical Society of London, on July 3d, Dr. Aveling read a paper on Post-mortem Parturition. He referred to forty-four cases of the kind, and from these deduced the following conclusions: 1. Expulsion of the contents of the uterus may take place after death without the aid of art. 2. This may occur in cases in which no symptoms of natural parturition can be discovered before death. 3. Many of the manœuvres and accidents which take place in labor during life may occur in post-mortem parturition, such as expulsion of the placenta, spontaneous evolution of the foetus, and prolapsus, inversion, and rupture of the uterus. 4. Expulsion of the uterine contents and accidents which accompany labor may be caused after death either by the contracting power, which persists in the uterus after the death of the rest of the body, or by the pressure exerted upon the uterus by gases of decomposition pent up in the abdomen. 5. Of these causes the latter is the more frequent. 6. After the death of its mother a child may continue to live in the uterus for many hours. 7. After the death of a woman undelivered no time should be lost in removing the foetus.

ART. 236.—On Extra-uterine Pregnancies, and more especially of their Treatment by Gastrotomy.¹

By THEODORE KELLER, M.D.

The following are the conclusions with which Dr. Keller ends his work:—

1. The dangers which extra-uterine pregnancy makes women encounter are so grave, that it is the duty of the physician to induce internal abortion in the first half of pregnancy.

2. This internal abortion should be effected by puncturing the ovum, but especially by capillary injection of poisonous substances.

3. When pregnancy has passed through the first half of its progress, it is reasonable to leave it to its natural course on to the term, but it is necessary carefully to watch the patient.

4. When the term of pregnancy is arrived gastrotomy should be performed and the child extracted alive. The operation should be proceeded with without delay, for fear of the results of rupture of the cyst and of the death of the foetus.

5. When the term of pregnancy is passed, and the child is dead, gastrotomy should still be the practice, to spare the mother the dangers which the presence of a dead foetus makes her run. Before operating, delay should, if possible, be made till adhesions of the cyst and the abdominal walls have been established.

6. The diagnosis of these adhesions should be made with much care. It is upon them that depends in great part the success of the operation. The membranes and the placental insertion should be meddled with as little as possible.

7. It is not as yet possible to establish a prognostic for gastrotomy at the full time. There are cases of success. That of gastrotomy after the full term, and made at an opportune time, should not, apparently, be more grave than that of ovariectomy.

¹ Des Grossesses Extra-utérines, et plus spécialement de leur traitement par la Gastrotomie, etc. Par Théodore Keller, Docteur en Médecine de la Faculté de Paris. Paris. 1872.

ART. 237.—*On the Elimination of the Puerperal Poison.*

By M. HERVIEUX.

(Medical Times and Gazette, November 23.)

M. Hervieux read last month at the Académie de Médecine an interesting paper upon "Elimination of the Puerperal Poison." He observed that, while there are but two channels for the introduction of this (the uterine in a few cases and the pulmonary in the vast majority), the channels of elimination are numerous. First among these is the gastro-intestinal. Vomiting is, in fact, one of the earliest symptoms of this poisoning; and M. Hervieux has seen many cases in which all danger seemed to have disappeared after spontaneous vomiting. Diarrhœa acts in the same way, and is *solidaire* to the vomiting; so that if one of these becomes suppressed by medicinal agents the other takes its place. It is true that vomiting and diarrhœa often aggravate the patient's condition; but this only shows that the economy becomes exhausted during the immoderate efforts which it makes to deliver itself of the poison. The biliary secretion concurs also most powerfully in the eliminatory action, and especially during epidemics. During these we find patients who, after having rejected by regurgitation, without effort and almost incessantly, an inspissated bile as green as boiled spinach, present after death nearly a litre of the same matter in the stomach, intestine, and gall-bladder. Orfila established the fact that the liver is the place of refuge by predilection for mineral poisons, the organ in which they are accumulated in the largest proportions. Such accumulation of the puerperal poison has probably something to do with the fatty change of the tissue of the organ met with in lying-in women.

The lochial discharge is of scarcely less importance in this elimination. The ancients exaggerated its importance by explaining all puerperal affections by its suppression. They, in fact, mistook the effects for the cause. But that the lochia serve as a vehicle for the deleterious principle is shown by the fact that their fetidity and abundance attain proportions in some cases that neither the general nor local condition of the patient explains, and that such fetidity and abundance coincide with diminution of temperature and pulse, with an improved countenance, a return of sleep and appetite, etc. The skin participates less often and less actively in the elimination, its intervention taking place especially in the severer cases, when it may be manifested either by profuse sweating or miliary eruption. M. Hervieux has had some cases in which the profuse sweats have persisted uninterruptedly for several days, and have thus conjured the most serious dangers. In these cases the secretion loses its acidity and becomes alkaline. Instances of miliary eruptions preceding a favorable termination of dangerous cases are too well known to require to be insisted on; but both these and profuse sweats are too often also accidents of the ultimate stage of the disease, and, occurring then under desperate circumstances, we cannot expect that they would operate a cure. The surface of blisters may in some cases, also, open an issue for the puerperal poison; and M. Hervieux refers to cases in which, without anything existing in their condition to account for it, blisters exhaled a horrible fetidity. In these, apparently under the influence of such exhalations, sensible improvement took place, the pulse approaching its normal condition, etc.

We have thus far had to deal with the natural channels; but in other cases, to use a term of M. Ricord's, an "affraction" may be advantageously established. This results from the spontaneous or artificial opening of purulent collections, and especially when these are peripheric. Every accoucheur knows that the development of an abscess of the breast may often arrest peritonitis, uterine phlebitis, or diffuse phlegmon; that abscesses of the limbs possess the same power of diverting a serious inflammatory menace from the viscera; and that even arthritic manifestations in like manner determine morbigenous action upon organs which are at a distance from the pelvi-abdominal sphere. The practice of a maternity cannot be long followed without its being discovered

that these different affections are not merely local, but that they are the expression or result of the efforts made by the economy to repel the evil from the centre towards the periphery, rendering the elimination of the toxic principle more inoffensive at those remote points. The success of such efforts is subordinated to the intensity of the epidemic movement; for if it were otherwise, how comes it that in certain years the most painful chaps, or the deepest fissures never give rise to abscess of the breast, while at certain epochs this organ becomes the seat of purulent formations in the greater number of puerperal women, whether they have chaps of the nipple or not? Experience has taught us that we should regard these peripheric manifestations with satisfaction—first, because they are an indication of the amelioration of the sanitary condition of the establishment; and next, because they provide in the individual cases an additional chance for the elimination of septic matter.

The knowledge of the above facts is not a mere matter of scientific curiosity, but has its bearing on therapeutics, for we are led to imitate nature in seeking to produce elimination. For this we have four means:—

1. *Emetics*.—The important part played by vomiting, whether at the commencement or advanced stages of puerperal poisoning, leaves us in no doubt as to the indication. Thus M. Hervieux has laid it down as a rule in his service that every newly-confined woman who falls ill, whatever may be the lesion she seems menaced with, must at once be submitted to the action of ipecac. In those women who are seriously attacked we do not thus prevent ulterior accidents, but we frequently succeed in the slighter forms of the disease and in mild epidemics. In any case it is rare for the general symptoms not to undergo some mitigation.

2. *Purgatives*.—These have never enjoyed the same favor with French practitioners as emetics, and yet they are one of the most certain and most active means in eliminatory treatment. But they must be employed with much tact and great lightness of hand, under pain of doing great mischief. The genius of the prevailing epidemic must be borne in mind, or we may risk the production of an incoercible diarrhœa and of hastening on the fatal termination. We may have an epidemic in which we may purge day after day without incurring any danger, and with great advantage, while in another a single purgative may determine a choleric diarrhœa. In proportion as experience has initiated him into a more exact knowledge of the conditions favorable for the employment of purgatives, M. Hervieux has become more bold in their administration, and every day he finds them rendering him great service. It might seem from what is stated above that we should always respect vomiting and diarrhœa occurring in puerperal women. But to this there is some reservation to be made. Vomiting should be respected at the commencement when it is not very abundant and tends to stop of its own accord. And nature's efforts may even be seconded by a dose of ipecac. But when it takes place insufficiently, and is purely bilious, and especially when it takes the form of regurgitation, it should be repressed, if this can be done, by the ordinary means—ice, seltzer-water, citrate of potass, but especially by diverting the eliminated matters towards the intestinal canal by purgative enemata. As to diarrhœa, it is salutary in the immense majority of cases, and it should only be arrested when, by its serous character and its persistence it becomes dangerous.

3. *Bleeding*.—This is an eliminatory agent of the first order, acting on the mass of the blood charged with the poisonous principle, time not yet having been sufficient for its deposit in the eliminatory organs. The fear, however, of adding to the debility caused by the natural loss of blood in parturition prevents one having recourse to it. The soundness of the principle of abstracting it is, however, shown every day by the excellent results which follow leeching, and especially cupping. These never fail to give great relief to women suffering from pelvi-abdominal affections, and in some conditions they suffice to arrest the progress of puerperal accidents.

4. *Blister*.—Although the revulsive action of these is that which is best demonstrated, yet they deserve great consideration as a method of elimination. But to this end it does not suffice for the epidermis to be partially raised at some points. The blister must be applied quite exactly and kept on sufficiently

long to give rise to a voluminous ampulla and an abundant secretion of serum. The evacuation of this may contribute to the elimination of the poisonous principle. At all events blisters constitute one of the most powerful resources at our disposal for combating the local manifestations of pathological puerperality.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 238.—*Tympanites and Phantom Tumors.*

By T. SPENCER WELLS, F.R.C.S., Surgeon to the Queen's Household and to the Samaritan Hospital for Women.

(*Diseases of the Ovaries*, pp. 478. London. 1872.)

In his elaborate treatise on *Diseases of the Ovaries; their Diagnosis and Treatment*, Mr. Spencer Wells says, in speaking of the diagnosis between tympanites, phantom tumors, and ovarian disease, one may easily understand how tympanitic distension of the abdomen, which is not unfrequently seen in hysterical women, may give rise to some awkward questions; but, except from personal observation or the testimony of men so accurate as Bright, Simpson, or Boinet, it is difficult to believe that any surgeon of reasonable experience, or in his right senses, could be so deluded by such a condition as to think that he had before him a case of solid ovarian tumor, and attempt the operation of ovariectomy. Yet Simpson says that it has happened no less than six times, and Bright published the following case in his work on abdominal tumors:—

"Susannah J., æt. thirty, said to have been ill for two years, was admitted, under my care, into Charity Ward, September 29th, 1824, complaining of abdominal pain and some hysteric symptoms. She had, in the middle line of the abdomen, about half-way between the umbilicus and symphysis pubis, an un-



healed scar of about three inches in length. The deeper part of the wound had united, and it was filling up by granulation, as was a portion of the external part at each end of the scar. It was evidently an incised wound, and the account she gave was, that, her abdomen being swollen, as it was at the time she had formerly been in the hospital, a surgeon proposed to her the excision of a

tumor which produced this swelling, and that, with two assistants, he prepared to perform the operation, and made a free incision into the abdominal cavity; but finding that there was no tumor, brought the wound together, which now, after the lapse of several weeks, was as we saw it. The wound healed completely under common treatment, but her health remained in a most unsatisfactory state, both from the tendency to diarrhœa, and from the frequent succession of pains, with occasional puffing-up of the abdomen, of which she was the subject, so that she remained in the hospital till December 28.

"During this long confinement the tumor of the abdomen varied a good deal, and was on one or two occasions reported to have subsided entirely.

"I may mention further that I had seen this young woman many years before, when she was in Guy's Hospital for a supposed abdominal tumor, under Dr. Marcet, who, however, soon discovered its hysteric character, though certainly the abdomen bore a very peculiar appearance, strongly resembling an encysted tumor; but there were connected with this supposed tumor so many other ailments, embracing fits of hysterics, epilepsy, paralysis, abdominal and lumbar pains, so varied and so changing, that a little observation was sufficient to convince any experienced person of its real character."

Boinet relates also that a miserable woman of weak intellect, tympanitic, and impressed with the notion that she had an abdominal tumor, was unfortunate enough to meet with two or three surgeons who from some unaccountable motives persuaded themselves that she had ovarian disease, and gave way to her importunate demands for an operation. Their rash gastrotomy only showed the existence of cancer, and killed the woman.



These hysterical distensions of the abdomen present themselves in a variety of forms. Sometimes the belly is uniformly blown up to the size of advanced pregnancy, and is rounded, hard, and resistant. The hand makes no impression on it, and change of position causes no alteration in shape. But, of course, there is no fluctuation—the resonance is universal, hysterical symptoms are generally present, and, under the influence of chloroform, the swelling entirely disappears, leaving the abdomen flaccid, and allowing the hand to rest upon the hard bones of the spine. In other cases the distensions are local, and it is noticed that they occur more often on the right side. Portions of the abdominal wall are gathered up into rigid knots, which remain so long unaltered as fully to simulate an internal tumor, especially as they are sometimes situated over accumulations of hardened feces, and are accompanied by a good deal of

tenderness of the parts. Careful and patient palpation, purgatives, and chloroform, will generally lead to a solution of the mystery, or may even disclose the existence of an unsuspected incipient ovarian tumor, which by its presence in the pelvis had given rise to the train of hysterical symptoms, and, among others, to the superimposed swelling, apparently the most important matter calling for treatment.

The drawing on page 233, from a photograph by the late Dr. Wright, shows how very accurately one of these phantom tumors or the condition which Mr. Wells describes as hysteric tympanites, may resemble a uterine or ovarian tumor. The lower part of the abdomen arches forward exactly as in pregnancy, or as in an ovarian tumor of moderate size when the abdominal wall is not lax; and the wall is so tense, the patient so resists pressure, or complains so much of tenderness on pressure, and the abdominal muscles contract so spasmodically and irregularly, that it is by no means difficult to fancy that a tumor, or even the movements of a fœtus, may be felt. The girl whose portrait is given on page 234 was in the Samaritan Hospital for some time, and it was difficult to convince her, her friends, and even some medical friends who saw her with Mr. Wells, that she had no abdominal tumor. The tympanitic resonance on percussion was, of course, the leading element in the diagnosis; but the most convincing test was the complete subsidence of the swelling and the flattening of the abdomen when the girl was fully under the influence of chloroform. The photograph from which the second drawing was taken was made while she was completely narcotized. The arched abdomen is seen to have been quite flattened, and it was easy, when the abdominal walls were so flaccid, to feel the pulsations of the aorta, the vertebral column, the brim of the pelvis, and to



become perfectly certain that there was no abdominal nor pelvic cyst of any kind. Yet the instant the effect of the chloroform began to pass away, the tumor always began to reappear. This was shown several times when the experiment was tried, and on one occasion Dr. Wright took a photograph when she was nearly awake (see above), and the tumor was almost as prominent as in her ordinary condition, shown in the first drawing. She was an hysterical girl, but there was no voluntary or conscious imposition on her part, so far as Mr. Wells could ascertain. She improved under a course of purgatives and steel.

Early last year (1872) a woman was sent to the Samaritan Hospital, supposed to be suffering from a large ovarian tumor. The tympanitic resonance, with the absence of fluctuation, at once showed that there could be no large abdominal tumor, but some hardness above the pubes led to a vaginal examina-

tion, when an early pregnancy was detected. On administering chloroform, the distended abdomen at once flattened down, and the outline of the enlarged uterus could be distinctly traced. This is the only case in which Mr. Wells has seen tympanites occur in a pregnant woman. He has, however, several times seen it accompanying small fibroid tumors of the uterus, uterine polypi, uterine displacements, and small ovarian tumors which have not risen out of the pelvis.

ART. 239.—*Report of three Cases of Vesico-Vaginal Fistula.*

By EVORY KENNEDY, M.D., late Master of the Rotundo Lying-in Hospital.

(*British Medical Journal*, August 17.)

Dr. Kennedy places on record the three following cases:—

CASE I. Vesico-vaginal Fistula cured by Twisted Suture.—On August 12th, 1837, H. Byrne, aged twenty-five, was sent from the country suffering from vesico-vaginal fistula. The opening was longitudinal, about five lines long, with considerable loss of substance. It was about three inches from the urethral orifice. The bowels were well freed. She was placed on the abdomen on the edge of a table, with a bolster interposed. My four curved beak-tractors were introduced, and, her limbs being held fast by assistants, I pared the edges of the fistula with a scalpel, cutting on an ebony spatula; and, having introduced three short needles into the wounded edges, drew them together with a twisted suture. A perforated shot was now squeezed on the end of each needle, an elastic catheter introduced into the bladder, and the patient was placed lying on her abdomen, on bolsters stitched together longitudinally. She was retained in this position, and closely watched day and night, by a relay of nurses, who never left her. The urine flowed freely from the urethra into a bladder attached to the catheter. Her bowels were washed out by lavement. Not a drop of urine escaped from the vagina. The sutures were cut out on the fifth day and the needles removed, when the union was complete. She left the hospital in a fortnight perfectly well. I had the advantage of the assistance of my late colleague, the distinguished surgeon Mr. Abraham Collis, in this case; and I cannot easily forget the gratification he evinced when he made a final examination of the bladder before the patient left the hospital, nor the significant manner in which he answered my inquiry whether he could find any hole. "No, doctor; I can't find a hole, unless I make one;" and added, with a peculiarly expressive shrug of his shoulders, with which those who knew him were familiar, "I am sure you don't wish me to do that."

CASE II. Vesico-vaginal Fistula treated by Caутery.—Honor Lattan was admitted in May, 1836, with a vesico-vaginal fistula an inch and a half from the meatus, transversely oval, with the edges thinned off, and large enough to admit the point of the little finger. She suffered from constant escape of urine ever since her first of two labors in the country, which lasted for seventy-two hours. The vulva was excoriated, red, tumid, and tender, with gritty deposit. Lead-poultices and the use of the catheter were had recourse to for some days; and then she was placed on the abdomen on the table, the tractors were introduced, and the button actual cautery applied to the stricture surrounding the aperture. After this she was slung from the bedposts in a sheet, lying upon the abdomen, with the catheter introduced. This operation was repeated at intervals, at first of five days, and subsequently at intervals of eight or ten days; and she left on the 26th of July, able to retain her urine for two hours, and only disturbed twice at night. The edges were again touched on the 11th of August; and on the 30th she described herself as free from inconvenience, retaining her urine regularly for three hours through the day, and being even able to go on often without relieving the bladder more than three times in the day and twice at night. The spot remaining ununited was reduced to a small pin-hole, such as you see represented in this drawing of Bridget Byrne, a case somewhat similarly treated, and with similar results.

CASE III. Vesico-vaginal Fistula treated by Caутery and Pessary.—Mary Cathcart (November, 1837) suffered from a slough of the vesico-vaginal septum in her first

labor in the country. The fistula was small, circular, about two inches and a half from the meatus, and rather to the right side. This was considerably diminished by one application of the actual cautery a month after her third delivery; but, as this was followed by peritonitis, it was determined not to repeat any operation. A cast model of the vagina, made of dentist's wax, was taken. This was done by introducing the soft wax, with a tape for extraction imbedded in its centre, through a speculum partially introduced. A caoutchouc mould was made from this, which fitted the vagina accurately, and was worn constantly as a pessary. The result of this simple contrivance, to use the words of my then clinical clerk, copied from his report, was, that "she experienced much comfort, being enabled by its use to retain her urine to a convenient length of time, and evacuate the contents of the bladder at pleasure, without withdrawing the instrument." I should, however, mention that I have since several times repeated this plan, using the cautery in preference to the ligature, or where this was objected to; and it has generally enabled the patient to retain her urine for some time. It has, however, not always been attended with the same amount of success. In fact it is more adapted to very small fistulous apertures or to those that have been reduced by the use of the cautery.

ART. 240.—Total Occlusion of Vagina—Operation—Animation suspended for upwards of Twenty-two Minutes by Chloroform.

By EVORY KENNEDY, M.D., late Master of the Rotundo Lying-in Hospital.

(*British Medical Journal*, August 17.)

At the fortieth annual meeting of the British Medical Association, Dr. Kennedy narrated the following case:—

Some years ago, Dr. Ringland and I were called upon to operate in a case of a lady with total occlusion of the vagina. The examination could only be made through the rectum. The anterior and posterior walls of the vagina were united almost throughout their whole length. There was a sense of fluctuation perceptible on pressing the finger high up into the bowel. A tumid fulness was perceptible over the pubes, to about the extent of a six months' pregnancy. The bladder and rectum were emptied; and the patient was placed on her back, on a high couch, with the limbs flexed and held by assistants, as in lithotomy. The patient was with some little difficulty brought under the influence of chloroform. I had commenced the operation, when she struggled so that I was obliged to desist, and assist in bringing her completely under its influence before again commencing. A catheter was introduced into the bladder, and the dissection was proceeded with, cutting and separating the adherent tissues with the blade and handle of the scalpel alternately; now introducing the finger into the rectum, and again feeling through the anterior wall for the catheter, to avoid approaching too closely to either cavity—a scarcely appreciable divergence in either direction being fraught with misery to our patient for life. From the difficulties and risk attending the operation, it was necessarily a tedious one; "rapidity" in such an operation being a convertible term for "destruction." At length, after cutting for three inches upwards, and dissecting a new vaginal canal by dividing throughout this extent a layer of condensed structure not more than the sixth of an inch in thickness, we had the gratification of coming to a small pouch at the upper part of the vagina, which communicated with the distended uterus, and from which poured a quantity of grumous retained menstrual fluid. Having thoroughly enlarged the opening at the upper part, so as to correspond with the dimensions of the canal throughout, I got up from the operation to receive a shock such as I never experienced before or since. Our attention was called by the chloroformist to our patient, who lay with her head over the edge of the table, her jaw fallen, and to all appearance dead. There was no respiration; no pulse at the wrist; no action of the heart. I took out my watch, in order to take care that attempts to restore animation should be continued for a sufficient time before desisting, but without a hope that they could be attended with success. Experience in resuscitation of infants had led me to expect little from forcible inflation of the lungs by inserting a tube into the trachea, but much from a continuous and persistent

imitation of the act of respiration by regular pressure on the elastic ribs of the subject—producing, as nearly as possible, the systole and diastole of the lungs and chest-frame, as observed in nature. Without a moment's delay I sprang upon the high table, so as to command the prostrate woman; and, kneeling across her, placed a spread hand over the lower ribs, and kept up an artificial respiratory action in the lungs of about twenty pressures in the minute. In the mean time, all the available means of resuscitation were most assiduously carried out by my friend Dr. Ringland and his assistants. Friction and sinapisms were applied to the arms, legs, and surface. As speedily as buckets of warm water could be procured, her hands, feet, and limbs were immersed in it. These efforts were persisted in, whilst minute after minute was anxiously counted, with not the slightest evidence of restored vitality. At length, our souls absolutely sickened with disappointment, and, I may add, all hope having fled, we were, at the expiration of twenty-two minutes, repaid for our exertions by a convulsive gasp. Nearly a minute took place before a second occurred. Then they recurred at half-minute intervals; and eventually the natural breathing became established, and the artificial respiration was desisted from. Sickness now set in. She was unable to assist in the involuntary efforts to discharge the stomach. The food blocked up the œsophagus and posterior fauces; but by drawing the head and neck over the edge of the table, and giving her the advantage of gravity whilst the finger was passed into the œsophagus, the obstructing food and mucus were removed and respiration was established. A second collapse ensued after a few minutes, consequent on the evacuation of the uterus; but after this she recovered without a check. A curious circumstance, in a psychological point of view, should not be omitted. When she recovered her sensibility and powers of perception and speech, within a few minutes after respiration was re-established, looking steadfastly at one of the physicians present, she asked slowly and with some effort, "Is that Jesus Christ?" Where was her soul during that period of suspended animation? It might be surmised that this case would shake one's confidence in chloroform. With me it had an entirely contrary effect, as it proved the power—perhaps I should say the capability—of restoring vitality suspended by its use under circumstances apparently hopeless.

ART. 241.—*Abstract of two Lectures on the Diagnosis of Pelvic Swellings, delivered at the Hospital for Women.*

By HEYWOOD SMITH, M.A., M.D. Oxon., Physician to the Hospital for Women and to the British Lying-in Hospital.

(*The Lancet*, June 22.)

After a few introductory remarks on diagnosis, arising out of Hippocrates' aphorism, "the coming-to-a-conclusion is difficult," the lecturer sketched the method he considers the best for eliciting the correct history of a case, and then, going at once to the subject, said: "I make no apology for using the word 'swelling' in preference to the ordinary Latin word 'tumor.' My reason for doing so is this: In some way or other the word *tumor*, while including all the signification of swelling, has added to it in the public mind the idea, not merely of the swelling of a part, but of a growth more or less separate or separable, and generally of a dangerous character. This idea of an entity independent of surrounding structures is often fixed so indelibly in the patient's mind that the hope of a remedy prompts the frequent question, 'Can I have it dispersed, or must it be cut out?' It seems so important to do away entirely with this erroneous impression from the minds, not only of our patients, but also of ourselves, that I have used this word 'swelling' as conveying a meaning more akin to the truth. With regard to the limitation 'pelvic,' by it I would confine our present investigation to those swellings that lie wholly, or have their greater part situate, within the boundaries of the pelvis."

The exercise of the various senses as means of diagnosis was then fully explained, and the various methods usefully tabulated; but there is only room here for their partial enumeration. The sense of *touch* was divided into *immediate* and *intermediate*. Under the head of immediate touch were placed: (1) the simple digital touch, (a) of the vagina, (b) of the rectum; (2) the

"double touch"—bidigital touch, or recto-vaginal examination; (3) the conjoined examination; and (4) abdominal palpation. Intermediate touch was explained to be that by the sound, whether uterine or vesical, and also by the thermometer. The sense of sight is exercised usually through specula of various devices directly on the object, or on fluids withdrawn by fine trocars, or by the microscope. Hearing is called into play in immediate or intermediate auscultation, and in discriminating between the often slight variety of note or pitch elicited from immediate or intermediate percussion. In speaking of immediate touch, Dr. Heywood Smith said: "It may here be remarked that, as a rule, the sensation of touch, as perceived by an internal examination, is such as to convey to our minds the presence of a body larger than really exists. The following explanation is submitted as not altogether improbable: The apprehension by the mind of degrees of comparison stands in relation to brain-work as given out in nervous energy. Now our ordinary measurements by the sight need but little movement of the eyes; also, on calling in touch to our aid, an object is usually grasped by several fingers at once, necessitating but little motion; but, in internal examination, it is necessary that the point of the finger should journey round a tumor in order to comprehend it, and the mind, taking the cognizance of the size by the amount of motion required, builds up an idea of comparative greatness so much larger in proportion to the nervous energy expended in acquiring the information."

The lecturer then, before dividing the subject matter under its various heads, made some remarks on the morals of vaginal examinations, in the course of which he said: "If a patient applied to a physician for diseases of the chest, he would be deemed to have gone into the case but superficially unless he had made a most thorough examination by means of every appliance that could be brought to bear on the subject. In the same way, and similarly as a matter of course, the pelvis should be examined where there are indications of its necessity. The indelicacy lies not in the examination itself, but in making much, or indeed anything, of it; the necessity arises out of the very nature of the case, and it should never be introduced with a preface, as if it were out of the usual order of things, but undertaken in the ordinary investigation of the case with the same unaffected ease with which a sight of the tongue would be requested."

The system of classification chosen as that considered the best under which to arrange the large amount of material was the anatomical; and the first main division was into (1) normal and (2) abnormal pelvic swellings.

1. The normal pelvic swellings may be thus enumerated: (a) the bladder full; (b) the uterus unimpregnated; (c) the uterus impregnated; and (d) the rectum loaded with feces.

2. Abnormal pelvic swellings were considered in relation to the various organs and tissues involved, and embraced swellings connected with the bladder, the uterus (fundus and cervix) the ovaries, the oviducts, the broad ligaments, the vagina, the rectum, and, finally, any swelling within the pelvis that had not been included in the above list.

Among swellings connected with the bladder were mentioned and illustrated calculus, abscess, cancer, cystocele, foreign bodies, etc. In diseases of the uterus the cervix uteri is the portion which most often shows itself as a pelvic swelling, especially in its state of cancer of various forms, chronic inflammation with deposit, engorgement with elongation of the cervix uteri, polypi of various kinds, and the occasional malformation of a double uterus. Cancer of the cervix uteri in its early stage has, in the form of scirrhus, to be differentiated from indurated (benignant) deposit in the labia uteri, and in the form of epithelioma to be separated from rodent ulcer, syphilis, and granular inflammation seated upon a hard basis in the cervix.

For the diagnosis of these several maladies, it is not merely requisite that the different morbid appearances should be most carefully observed, but also that the histories of the cases should be most accurately gone into and traced, so as, if possible, to make the diagnosis tolerably certain by the very history, and almost independently of any examination. The cases of induration of the cervix uteri present a hardness often circumscribed, occasionally involving the

whole of one lip. In these cases the submucous hardness seems to lie at a somewhat greater depth below the membrane than does the hard tissue of carcinoma.

Sometimes diseases affecting only the body or fundus uteri present themselves per vaginam as pelvic swellings. Cancer of the fundus unassociated with, or, in fact, secondary to, carcinoma cervicis is rare; yet, when it does occur, it may be mistaken in diagnosis for fibrous tumor. The cervix high up or the body is felt to be bulging and hard, not very tender; the os uteri not patent; no discharge; in fact, the case may lack the characteristics of cancer. The history, too, may not be much help, for women will often live for several years before they find out that they are the subjects of fibrous tumors; and in cancer in some cases, the disease may advance some way with scarcely any pain, and without discharge. In such a case the passage of the sound will generally reveal the nature of the swelling; for when it touches a cancerous mass some bleeding is usually set up, and doubtless, at the same time, some pain too. Should, however, the diagnosis be not even then cleared up, the lips of the womb should be divided freely bilaterally, when cancer would reveal itself by being forced through the os uteri. A fibrous tumor might also thus, under certain circumstances, be forced through, or rendered amenable for exploration; and in that case divisions might enable further remedial measures to be taken. In the case, however, of fibrous tumors, the history should be taken into consideration, as these may exist without much evidence of their presence for many a year. While speaking of uterine fundal swellings, it may not be out of place here to mention chronic inversion of the uterus, a condition liable, without due care, to be mistaken for a polypus; but the passage of the sound, disclosing an invagination of cervical tissue, determines the solution of the difficulty.

The lecturer then came to consider the various versions and flexions of the uterus, inasmuch as they produced pelvic swellings which it was absolutely necessary should be differentiated from each other and from other morbid conditions for the purposes of diagnosis. In considering *anteversion* it must be borne in mind that to constitute an abnormality the uterus must lie nearly horizontally; the natural position of the organ being at right angles to the plane of the pelvic brim, and so anteverted as regards the perpendicular. In *retroversion* attention is called to some difficulty in defecation, with backache, among other things, and the simple touch generally reveals the nature of the dislocation. In *retroflexion*, however, while these symptoms are generally exaggerated, there is also a post-cervical swelling separated from the cervix by a sulcus which is not found in retroversion. That this swelling is the flexed fundus is only to be demonstrated by the introduction of the uterine sound, for the proper use of which minute directions were given. *Anteflexion*, on the other hand, was described as producing more severe subjective symptoms, and for its proof requiring the careful use of the sound. These flexions were also referred to as occurring in the impregnated uterus. Other organs, some of whose morbid conditions should be ranged under the head of pelvic swellings, were then considered—namely, the ovaries as felt in chronic and acute ovaritis; also all the ovarian cyst formations, whether unilocular, multilocular, or histoid of various kinds. After referring to diseases of the oviducts, the pelvic swellings that are connected with the broad ligament claimed attention; these arise from cysts, pelvic cellulitis, abscess, peritoneal serous effusion, and para-uterine, or extra-peritoneal areolar hæmatocele. Cysts are scarcely distinguishable from those of the ovary save by their contents. Cellulitis is differentiated by its history from hæmatocele, and both from fibrous tumors by the absence of constitutional symptoms with the latter, and by the use of the simple touch with the uterine sound. Pelvic swellings confined to the vagina may be caused by abscess in its wall, cancer, cicatrices, fibrous tumor, syphilis, condylomata, cysts, polypi, and foreign bodies. Cancer of the rectum may produce a pelvic swelling felt per vaginam, as also rectocele.

Dr. Heywood Smith then drew attention to certain swellings that might be present in the pelvis, and which had not been included in the above classification, as increased projection of the promontory of the sacrum, exostosis, cancer of the bone of the pelvis, abscess of the kidney, extra-uterine foetation, entero-

cele, hydatids, aneurism, and post-uterine intra-peritoneal hæmatocele. The bony diseases are recognized by their hardness, which, in osteo-sarcoma, is varied by portions of friability. Pyonephrosis may extend into the pelvis and produce a swelling. The diagnosis of extra-uterine foetation was carefully gone into, and its differentiation from fibrous tumor and ovarian cyst indicated. The rare accident of enterocele was explained, and hydatids and aneurism alluded to to render the list complete; and the last pelvic swelling considered was intra-peritoneal hæmatocele. This was explained to be more a symptom, though a very grave one, of some mischief, happening generally suddenly, in connection with some previously diseased pelvic organ. A table was shown exhibiting, in parallel columns, the differentiating signs and symptoms between it and pelvic cellulitis, extra-uterine pregnancy, ovarian cyst, fibrous tumors, retroflexion of the uterus, and extra-peritoneal hæmatocele respectively.

The lecturer concluded with these words: "In order to diagnose pelvic swellings with accuracy, it is necessary that we should habituate ourselves to an orderly, deliberate, and logical investigation of the question before us; and failing, as we so often do, to be able to grasp special pathognomonic signs, let us give our careful attention to the following: (1) to any deviation from the normal state of any function, not only of the organ affected with disease, but also of neighboring organs or organs functionally connected; (2) to all the absolute physical changes in any part under observation which may be discovered by any means in our power. To these ends we should bring to bear all the knowledge and appliances that modern medicine has furnished us with. And when we have done all this conscientiously, and have come to a conclusion which we have every reason to believe is a right one, how humiliating to have to confess that that labor has only given us the knowledge of the existence and character of the disease, and that on arriving at a correct diagnosis we have scarcely even entered the solemn portals of our art."

ART. 242.—*Retroflexion of the Uterus—Progressive Hemiplegia—Depressed Temperature—Epileptic Fits and Menorrhagia—Recovery.*¹

By THOMAS CHAMBERS, M.R.C.P. Lond.

(*British Medical Journal*, August 24.)

Mrs. L. J., aged forty-nine, widow, was admitted into the Chelsea Hospital for Women on May 2d, 1872. Her health had been good up to July 6th, 1865, on which day, on coming quickly downstairs, having on high-heeled boots, her foot slipped and she fell suddenly on the buttock. This was followed by sickness and great pain at the lower part of the spine, which pain continued for seven years. In about a week the left foot and leg became cold and numb; and gradually the whole of the left side became cold and more or less paralyzed. Menstruation became more and more disturbed until the beginning of 1871, when the menorrhagia became continuous. In 1869 she had a severe epileptic fit, and others in eighteen months. When admitted she was very thin, withered, and "pain-worn;" pulse 120, small; the urine scanty, high colored, with acid reaction; it contained no albumen. She had excruciating pains at the lower part of the back, shooting up the spine and through the head whenever she moved about. The grasping power of the left hand was impaired. She had but limited control over the movements of the left leg. The coccyx was severed from the sacrum. The slightest movements gave her intense pain; defecation was very painful. The uterus was acutely retroflexed, low down in the pelvis, and very painful. The os uteri readily admitted the end of the index finger; its mucous membrane was much congested and swollen, bleeding freely on touch. An attempt was made to introduce the sound, but had to be abandoned in consequence of the pain produced. The coccyx was replaced and sustained by a vaginal plug. She was kept quite in bed; had milk diet, beef-

¹ Read before the British Medical Association.

tea, two eggs, and three ounces of brandy daily; also a grain of opium in pill, and ten grains of bromide of potassium in cinchona mixture three times daily. This treatment was quietly pursued for three weeks. On May 24 her general health had improved. She was put under chloroform; the uterus was replaced; and, after a little careful manœuvring, an intra-uterine stem was introduced. Within twenty minutes after the introduction of the stem, the whole of the left side, which had been as cold as marble for seven years, had become perfectly warm; there was a good deal of hot tingling for a time, but in twenty-four hours it had passed off, and the whole side was warm and comfortable as the other. The hemiplegia became less from day to day, and in three weeks it had passed away altogether. The stem was removed on the ninth day, after which all discharge soon passed away, and menstruation assumed its natural periods. She was discharged cured on July 31, 1872.

ART. 243.—On the Removal of Portions of Morbid Tissue in Cases of Carcinoma Uteri.¹

By A. R. SIMPSON, M.D. Edin.

(*British Medical Journal*, Aug. 24.)

Dr. Simpson, in his communication, advocated the removal of portions of the diseased tissue in cases of carcinoma uteri, even where there was no possibility of complete extirpation. The risks were but slight, and the advantages accruing were arrest of the hemorrhage and other exhausting and noxious discharges, and relief of pain, more especially in cases of intra-uterine disease, of which some illustrative instances were adduced. Where the part to be removed could be surrounded by the loop of a wire or chain, the amputation was best effected by means of the galvano-cautery or the *écraseur*; where the cancerous growth was flat or excavated it needed to be dug out with a scoop or *curette*. It was usually advisable to apply perchloride of iron to the raw surface, which remained healthy for some time afterwards; and the chlorate of potash had been found a useful application to cancerous surfaces.

ART. 244.—New Insufflator for Treating Diseases of the Uterus, etc. with Medicated Powdered Charcoal.

By JOHN CLAY, Obstetric Surgeon to the Queen's Hospital, Birmingham.

(*The Lancet*, Nov. 30.)

Mr. Clay has been engaged for some time in testing the advantages of insufflation by means of powdered substances where local applications to the uterus and vagina have been deemed advisable, and has found that finely powdered wood charcoal is the most convenient for the purpose, and has applied by insufflation from one to two grains of the nitrate of silver, and from two to five grains of tannic acid, persulphate of iron, etc., mixed with equal portions of the charcoal, and sometimes combined with morphia, to the interior of the uterus, as well as to the os and cervix uteri, with excellent results, and without producing those distressing uterine colics so often manifested when these agents have been used to the uterus in a liquid form. Tannic acid, oxide of bismuth, alum, etc., but in larger quantities, have been applied to the vagina in the same way, followed after a time by a marked amelioration of distressing symptoms, or by a rapid cure of the disease from which the patient was suffering.

It is sometimes necessary to remove the tenacious mucus from the cervix uteri previous to insufflation. This may be efficiently effected by means of a narrow strip of lint wound round the end of a stilette, and withdrawn in a spiral form after being passed into the uterus. The secretion from the os uteri

¹ Read before the British Medical Association.

and vagina is best removed by dry lint or sponge, injections not being so advantageous for the insufflation afterwards.

The application of the powder is made with an instrument, for which Mr. Clay states he is indebted to Messrs Salt & Son, of Birmingham, for the great ingenuity and care bestowed by them in perfecting it, and which fully meets his wishes. The powder can be applied to the interior of the uterus with the instrument, without the previous use of tangle or sponge tents. Insufflation to the os uteri and vagina is easily effected by means of Blackbee's speculum, which is a convenient instrument for the purpose.

In certain affections of the rectum, Mr. Clay has found insufflation through an anal speculum to prove very serviceable, being much more convenient than lotions or ointments.

ART. 245.—On Ulceration of the Vaginal Portion of the Womb, in Connection with Chronic Metritis and Vaginal Blennorrhœa.

By Dr. JOSEPH POLLAK, of Vienna.

(*Oesterreichische Zeitschrift für praktische Heilkunde*, xvii. 13; *Schmidt's Jahrbücher*, No. 4, 1872.)

"In cases of chronic metritis and mucous discharges from the vagina, ulceration, varying between slight excoriation of the epithelium to deeply invading sores, is a very usual phenomenon on the lips of the os uteri. The ulcers may readily escape notice on digital examination, but can be always made out on ocular inspection. They owe their origin to the mechanical irritation caused by the contact of morbid secretions with the mucous surfaces, in consequence of which the epithelium, after being kept constantly wet with discharge is destroyed, and then superficial or deeply extending suppurative takes place. They are most frequently found on the posterior lip, and in this situation are very rebellious to treatment at first. They diminish rapidly in size, like ulcers on the legs, by drawing towards them the surrounding tissues; they then remain of about the same size for a long time, and finally heal slowly by cicatrization extending from their edges. In cases of ordinary ulceration, with rational treatment of the original affection, from two to five applications of nitrate of silver, each made after an interval of five days, will suffice for cure; but in obstinate chronic metritis a longer time is required for the treatment of the ulcers, and from eight to ten, or even, in some instances, twenty applications of the nitrate of silver.

ART. 246.—Fibroid Degeneration of the Uterus, and the best way of Treating it.¹

By PROTHEROE SMITH, M.D.

(*British Medical Journal*, August 24.)

Dr. P. Smith drew a distinction between the polypi formed in the contractile tissue of the uterus and those of the soft lining tissue. The former alone are fibroid. When protruding internally they become polypoid, and are easily removed; when, however, occurring externally, either projected through the contractile tissue or formed in the connective tissue separating it from the peritoneum, and so becoming subperitoneal fibroids, they can only be removed, if pedunculated, by abdominal section, or by the almost unjustifiable operation of the entire extirpation of the uterus and its appendages, when extensively implicating the organ. In intramural fibroids he advocated their cure by enucleation, after division and dilatation of the cervix. He was led first to adopt this measure of the gradual separation of the fibroid from the uterine tissue, and its removal piecemeal, by a case cited from his practice at the Hospital

¹ Read before the British Medical Association.

for Women in 1865, which first suggested the idea of getting rid of these morbid growths through the natural passages, by the help of the natural powers of expulsion, augmented by the use of ergot and borax. He preferred the use of the ligature by means of Gooch's canula, to the *écraseur*; and pointed out the danger of extensively separating the disease before its removal, from disintegration of tissue and pyæmia. Distinctions were drawn between the disease when infesting the cervix, and simple hypertrophy or cervical areolar hyperplasia and *elongement*; and to illustrate the mode of treatment he had successfully pursued, a recent case was quoted, diagnosed microscopically as fibroid, and cured by the repeated use of caustic potassa, by the *modus medendi* which was described.

ART. 247.—*On Fibrous Tumors of the Uterus.*

By GEORGE H. KIDD, M.D.

(*Medical Press and Circular*, August 28.)

At a recent meeting of the Dublin Obstetrical Society, Dr. Kidd read a communication on fibrous tumors of the uterus, of which the following is an abstract:—

He remarked that in the books fibrous tumors are spoken of as of three classes. We have fibrous tumors found on the outer surface of the uterus, or sub-peritoneal tumors. We have found them in the substance of the uterus, or intramural tumors, and we have found them in the interior of the uterus, or intra-uterine tumors. The sub-peritoneal tumors are, as we know, the largest, and are very frequently numerous. There are cases recorded of tumors of this kind 70 lbs. in weight. The chief importance of sub-peritoneal tumors arises from their size and their position. The remark has been made by Cruveilhier that the sub-peritoneal tumor is not accompanied by hemorrhage: but a doubt has been thrown upon the absolute correctness of this statement. I now lay before you a uterus having on its outer surface a small specimen of a subperitoneal tumor, not larger than a large-sized filbert; but there is a soft mucous polypus growing from the inner surface, at the fundus, and projecting into the cavity of the uterus, and there are also at the os-internum a number of cystic polypi. It was a case where we had a sub peritoneal tumor combined with intra-uterine polypi, in which the fibrous tumor might have been recognized during life and the polypi have remained undetected. I can very well imagine that in such a case as this you might have a sub-peritoneal tumor complicated with hemorrhage due to the polypus and not to the tumor. This, then, would afford a satisfactory explanation for the occurrence of hemorrhage in connection with sub-peritoneal tumors. I could not obtain any history of the uterine symptoms during life. The chief importance, however, of the sub-peritoneal tumors is from the mechanical inconvenience they cause. I have notes of a very remarkable tumor of this kind that I had the opportunity of observing from the beginning to the end. It was the case of an unmarried lady who consulted me for a tumor. It was then about the size of a goose's egg. A second tumor developed itself as I watched the progress of the case.

On examination in 1859, I found a tumor of stony hardness; and on passing a sound into the uterus, I found this organ of the normal length and, as I have already mentioned, pushed upwards and forwards. The tumor behind the uterus increased in size so much, that there was a difficulty in getting the bowels to act, and at each menstrual period there was great pain in the tumor, and she suffered from great sickness of stomach. At no time was there uterine hemorrhage.

In 1861, Dr. Churchill saw this lady. The whole of the upper part of the pelvis was occupied by the large hard solid mass, so tightly wedged into the pelvis as to be quite immovable; and the tumor rose in the abdomen to midway between the umbilicus and xiphoid cartilage. The constipated bowels and difficulty of defecation continued. But the greatest source of complaint now was excessive pain along the course of the great sciatic nerve of the right side. Dr. Churchill suggested the use of an air pessary strongly inflated, to bear the

pressure of the tumor off the sacral plexus of nerves, and to gradually raise the tumor off the rectum. This was used for some months, and afforded considerable relief. The lady now went to the county Wexford, and was under the care of Dr. Isdell, who wrote to me that she had a fibrous tumor so completely blocking up the pelvis, that he thought defecation would soon be impossible.

This is a very marked example of the mechanical inconvenience arising from this class of tumors. The pain in the sciatic nerve was intense, and it was something frightful to witness her agony arising from it.

At the end of 1863, menstruation now ceased, and the abdomen gradually diminished in size; the pain and sickness of the stomach ceased; and the abdominal tumor disappeared without its going being in any way noticed, except from the diminution of size, which was so gradual as to be only known by the result, and not by the process. The general health was greatly improved.

On 26th of June, 1867, I could not detect any tumor in the abdomen. On passing my finger into the vagina, I found a firm round tumor in Douglas's space. The uterus was easily felt, pushed a little forwards by the tumor, but nearly in its normal position.

This was one of the most remarkable cases I have ever known of the disappearance of a fibrous tumor.

The pressure here was upon the rectum and the sacral plexus of nerves, and the pessary afforded the patient great relief. In other instances the pressure is upon the urethra and upon the neck of the bladder.

The following case is an example of this: A. D., an unmarried woman between forty and fifty years of age. During the last fourteen months had frequently suffered from retention of urine, and was obliged to have a catheter passed. On examination, a fibrous tumor was found growing from the posterior wall of the uterus, lying in the concavity of the sacrum, and forcing the uterus against the neck of the bladder. The tumor was fixed in this position. I tried unsuccessfully first to move it with my hand by placing my finger in the vagina and pressing it up. I then placed one of Barnes' India-rubber bags in the rectum and forced water into it by means of a syringe. As I forced the water into the bag it gradually lifted the tumor out of the pelvis, got it above the brim, and allowed the neck of the uterus to come down into its normal position. I then removed the bag, and placed in the vagina one of Hodge's pessaries. The woman complained, next day, that she had a tumor in the abdomen, which she had not had before. I have seen this woman frequently. The tumor is still in the abdomen, had not returned into the pelvis, and she never had any further difficulty in passing water.

Cases of this kind illustrate a remarkable circumstance—that the inconvenience arising from them, although mechanical, is intermittent. This woman suffered from retention of urine, but by means of baths she got relief, except on five occasions, when the catheter had to be used. I think it is a remark of Dr. Charles Johnson, that a permanent obstruction of the rectum has never been recorded as arising from the pressure of a fibrous tumor, but you may have at intervals serious obstruction in the rectum. I think these tumors often become increased at the menstrual period. The first case, where pain in the sciatic nerve was always aggravated at the menstrual period, is a case of that kind. Another circumstance influencing them is the condition of the bowels. These tumors are also liable to become œdematous by being in some degree infiltrated with serum.

The increase of pressure by flatulent distension of the bowels was very forcibly brought under my observation in a case I saw with Dr. Gordon and the late Dr. Beatty. It was not, however, I believe, a fibrous tumor. The case was that of a lady who had been under Dr. Gordon's observation for a tumor occupying the left and lower part of the abdomen. In some way the bowels became obstructed, and she was for a very considerable period unable to pass anything from them. The abdomen became enormously distended, and we had all the symptoms of intestinal obstruction. We felt that if we once made an incision into the abdomen, and the intestines escaped, we never should be able to get them back again, so great was their flatulent distension. After trying

many means to obtain relief, we passed a fine trocar into the transverse arch of the colon. A great escape of gas took place. The candle having been brought near, the gas took fire, and a blue flame was formed two or three inches in length. The next day the bowels acted freely, and continued to act for some time, until she gradually sunk and died from other causes. It shows that flatulent distension of the bowels may cause a tumor to press on neighboring organs.

The next point to which I desire to call your attention is the disappearance of fibrous tumors. In the case of the sub-peritoneal tumor that I have related, I believe the tumor disappeared by absorption. There was no escape of anything that could account for its disappearance. Another change these tumors undergo is that of calcification, especially after menstruation has ceased. Reasoning on this, the use of chloride of calcium was suggested, and Dr. McClintock speaks highly of it. I do not know that I can give you an absolute proof of the diminution of tumors from the use of chloride of calcium, but the patients express themselves very much relieved by the use of it.

The next class of tumors are the intra-mural tumors. I have not much experience of my own to record with regard to intra-mural tumors. In my experience they are the least amenable to treatment, while they are the most serious, perhaps, to the patient. They cause sometimes great hemorrhage. I had a case of intra-mural tumor, where I had an opportunity of dissecting the patient, and yet there was no history of hemorrhage, even though the cavity of the uterus was much enlarged. In other cases not nearly of that size, the hemorrhage was excessive. I believe the difference is owing to this—when the tumor is near the mucous surface, and presses on it, you have hemorrhage; when it is in the substance of the wall of the uterus, and grows towards the outer surface, there will probably be no hemorrhage. Many methods have been suggested for the treatment of these cases—incision into the capsule of the tumor, gouging, incision of the neck of the uterus, etc.

I have never seen a case where it seemed desirable to adopt these methods of treatment; and, indeed, they seem more likely to be useful in cases of intra-uterine tumors, which we now know can be removed. The injection of perchloride of iron has also been used to check hemorrhage. That, in my experience, is the least useful and the most dangerous treatment. The last case in which I tried it proved fatal. The woman got a low form of metritis and died. Nitric acid does not produce nearly the same amount of irritation, and is more beneficial. The palliative treatment is of great importance in these cases, and the best form of it plugging.

It has become the fashion of late to plug with cotton, and I have fallen into the way with others. It is a peculiarity of cotton, that as you wet it, it becomes contracted and occupies a smaller space than it did at first. When placed in the vagina it becomes wet with blood, contracts greatly, and leaves the vagina free enough to allow a discharge of blood. Sponge is the reverse of cotton; it expands when wet, and fills the vagina more completely. When the cotton plug is wet the blood will trickle past it; whereas the blood gets into the interstices of the sponge and coagulates, and the hemorrhage is arrested. There is one way in which cotton can be rendered more efficient, and that is by saturating the first portion introduced with perchloride of iron; this produces coagulation, and the bleeding is checked. And a more efficient method, when it can be managed, is to plug the os uteri itself with a piece of prepared sponge.

Intra-uterine tumors may grow from any part of the uterus, but I never met with one growing in the canal of the cervix. They grow, in my experience, chiefly from the cavity or body of the uterus. My present experience of these tumors, where you have one side of the uterus bulged out, is that the pedicle of the tumor is attached opposite to the bulging part of the uterus. I have seen a number of these cases. So frequently have I met with this circumstance, that the tumor bulges out the wall of the uterus opposite to where it is attached, that I have ventured to predict where the attachment of the tumor would be found, and I have been, up to the present, invariably right.

The tumor I next exhibit was the first large-sized one I ever removed. In

my operations for small tumors and polypi, I was in the habit of using for an *craseur* a soft iron wire, and I thought there were advantages in using it. I attempted to remove this tumor with a soft iron wire and failed completely. My patient waited a few weeks, I tried it again, and succeeded at the first effort in removing the tumor. I succeeded because I used a steel wire, a piece of piano string, in fact, which answered the purpose admirably. The long neck of the uterus is dilated with sea-tangle until the finger can go up, and the tumor is caught and fixed by a vulsellum. The soft wire when passed up assumes the shape of the canal of the cervix, and it is difficult to expand it again so as to get it round a large tumor. By using a steel wire you can compress it to get it through the narrow os, and when you get it up it expands by its own elasticity, and you can slip it over the tumor with ease. The next large tumor I attempted to remove grew from the fundus of the uterus. So deterred was I by the difficulty I had experienced in using the soft wire; turning it over in my mind, Dr. Barnes' suggestion to use steel wire for dividing the foetal head in certain cases of difficult labor occurred to me, and I determined to try it, and with it I succeeded in snaring the tumor and taking it away at the first attempt. She had been nearly dead when she came into hospital. In fact she had been taken out of her bed and laid on the floor "to die easy," according to the superstition of the country, when Dr. Clarke, of Bailieboro', who was passing by, went into the house, plugged the vagina, and checked the hemorrhage, and then had her sent to me. She is now perfectly recovered.

There is only one other point as to these intra-uterine tumors which I wish to speak of. Sometimes they are removed by nature. In one of these cases I found signs of a considerable tumor in the interior of the uterus, and I made arrangements for the removal of it. An appointment was made for the operation, and some friends were requested to join me. I happened to have a very fatiguing case the night before, and begged to be allowed to postpone the operation. It was accordingly put off. That night the lady had a rigor. The next morning her pulse was 150, and she was in high fever; and she remained in this state for a fortnight, and at its termination this mass was expelled. There was no return of hemorrhage, and she went home to the country comparatively well, and the uterus greatly reduced in size.

The Vice-President, Dr. Bryne, said: He had never witnessed a case where a tumor was expelled by natural processes alone; but he had come across cases in the dissecting room where these intra-uterine tumors had undergone calcareous degeneration, and in which, if the patient had lived longer, the tumor would probably have been expelled. There was one great cause for satisfaction in respect to these tumors, that except they assumed the form of polypi, when the menopause occurred, the hemorrhage caused by the tumor ceased. He had under his observation the case of a lady who was blanched with hemorrhage, produced by a large fibrous tumor. She was several times on the point of death, but when the menopause came the hemorrhage ceased.

Dr. Denham remembered a patient who was in the habit of coming to the Rotundo Hospital. She had a large fibrous tumor in the anterior wall of the uterus, and she came to the hospital suffering from retention of urine. They always drew off a quantity of healthy urine, and every month or six weeks the operation would have to be repeated; but why the retention came on at any particular period they could not tell. He believed she was still in the habit of going to the hospital, and the tumor was progressing slowly in its growth. There was one form of danger from these tumors in the substance of the uterus which had not been alluded to—the possibility of a woman thus affected proving pregnant. He remembered a lamentable case of that kind. A large, stout, healthy woman, thirty years of age, proved pregnant. Unfortunately for her there were several of these tumors imbedded in the body of the uterus. She had a tolerably healthy labor, and the child lived, but she died from flooding, it being impossible to produce contraction of the uterus.

He quite agreed with Dr. Kidd as to the inefficiency of plugging. He had very little faith in it. He thought they could not plug the os better than by putting in some pieces of sea-tangle, and applying nitric acid to the tumor itself. Spontaneous separation of the tumors was a process they could not

wait for. It was an event of such rare occurrence that no sane man would wait for spontaneous cure when his patient was suffering from repeated hemorrhage. He had not the apprehensions Dr. Kidd entertained as to the preparations of iron.

Dr. Athill bore testimony in favor of the steel wire, the use of which had been introduced into Dublin by Dr. Kidd. He considered it superior to any other material for performing *écrasement* they could possibly use in these cases. With regard to the point of attachment of these tumors he was not quite sure that he could accept the proposition that a tumor bulged out of the portion of the uterus opposite its apex, instead of the portion corresponding to its attachment.

He was not altogether in accordance with Dr. Kidd in respect to plugging. No doubt the most efficient way was to plug the os uteri by means of sponge tents, but that was difficult to do when the woman was bleeding rapidly. He preferred the cotton, and he had found it tolerably effective. He first introduced a piece of cotton saturated with perchloride of iron and glycerine, next, a piece saturated with pure glycerine, and next pieces that had not been saturated at all. When cotton did not succeed it was often because it was not properly employed. His objection to the sponge was threefold. First, the difficulty of introduction. The next objection he had was the horrible stench it caused. His third objection was the expense. With respect to the internal application of nitrate of silver, nitric acid, and perchloride of iron, he agreed with Dr. Kidd. The only severe case of pelvic cellulitis he had ever seen was brought on by perchloride of iron.

With respect to the effects of pregnancy and menstruation on these tumors, it was a matter of great importance. A woman, known to have a fibrous tumor, who was about to get married, consulted him as to the propriety of doing so. He gave a strong opinion against the advisability of that course. It was clearly proved that these tumors enlarged much during pregnancy, and gave rise to very grave symptoms, endangering the patient's life.

Dr. Kidd said he might, had time permitted, have ventured to adduce some cases of fibrous tumors complicating pregnancy. He had seen two women die soon after labor from the effects of sloughing and disintegration of fibrous tumors in the uterus. He remembered another case. The students who attended her thought she had twins, and after waiting for some time for the second child, sent for him. To clear up the doubt that existed, he introduced his hand, and found a large fibrous tumor in the fundus of the uterus. He went back to see the woman occasionally, and on the fourth day he saw her up and washing clothes. Two months afterwards the uterus had gone back to its normal size. He had three times attended a lady who had a large mass of sub-peritoneal fibrous tumors; they lay high up in the abdomen, and never affected her labors: and he had, during a previous session, brought before them a case where a large tumor completely blocked up the brim of the pelvis and prevented the entrance of the head. In that case he succeeded in putting the tumor up into the abdomen by using one of Barnes' bags in the method he had alluded to in his communication.

ART. 248.—On the Employment of Subcutaneous Injections of Ergotin in the treatment of Fibrous Tumors of the Uterus.

By DR. HILDEBRANDT.

(*Berliner klinische Wochenschrift*, 1872; *Gazette Hebdomadaire*, Nov. 27, 1872.)

Since Langenbeck practised injections of ergotin as a means of treating aneurisms, an example which has been followed by other surgeons, attempts have been made to apply this treatment in cases of hemorrhage. MM. Ruben and Zeute have directed attention to the good effects of injections of ergotin when applied in cases of menorrhagia and of metrorrhagia after delivery. Dr. Hildebrandt has extended the use of this method, and hopes that he has found

in it a new means of treating fibrous tumors or liomyomata of the uterus. In order that one may appreciate the value of his very interesting attempts, we give a *résumé* of his report:—

The subject of the first case was a woman aged thirty-three years, who had been affected for three years with a tumor in the hypogastric region. This swelling was of about the size of the pregnant uterus at the seventh month. There seemed to be no doubt concerning the diagnosis, and the swelling was regarded as an intra-uterine liomyoma, that is to say, a fibrous tumor of the uterus. There were frequent and abundant hemorrhages. Dr. Hildebrandt tried the injections of ergotin in the first place with the object of arresting the hemorrhage, and also of facilitating the contractions of the uterine walls in order to set up by compression engorgement of the tumor, and its protrusion at the os uteri, where it might then become accessible to surgical interference.

The injections of ergotin were followed by a remarkable result. Dr. Hildebrandt administered daily for two weeks an injection under the integument of the abdomen over the tumor, employing a solution made up of 3 parts of ergotin, 7.5 parts of glycerine, and 7.5 parts of water, and using for each injection Pravaz's syringe. Menstruation then took place more regularly, and the discharge was less abundant, and attended with less pain than it had been previously. After the cessation of the menses, the daily injections of ergotin were renewed. The tumor then seemed to diminish week by week, and finally it disappeared. The treatment lasted over fifteen weeks—a result which was so unexpected led Dr. Hildebrandt to other attempts, an analysis of which he has published.

CASE II.—The patient was affected with intra-uterine fibroma and with small sub-peritoneal fibrous tumors on both the right and left side. Menstruation was profuse, and there was also uterine catarrh. Injections of ergotin were made daily from the end of August to the end of November; the result, though not to be compared with that of the former case, was, however, favorable; the uterus certainly diminished in size, in consequence of shrinking of the intra-uterine tumor. Menstruation became regular, and the white discharge and uterine pains ceased.

CASE III.—A woman, aged thirty-one years, had been troubled with menstrual disturbances since the age of sixteen. The menses had sometimes continued from six to eight months. Anæmia and emaciation were well marked. The apex of the uterus had reached almost as far as the centre of the pubo-umbilical line. On digital examination a tumor could be felt in the anterior wall of the uterus. Daily subcutaneous injections of ergotin were made from January 17th to March 5th, 1872. When the patient was discharged menstruation had lasted but three days, and had been regular. The general condition of the patient had been much ameliorated, the uterus had diminished considerably in size, and most of the vaginal portion had regained its normal size.

CASE IV.—A woman, forty-five years of age, presented an uterine tumor of the size of a child's head; the pelvic cavity was filled by the uterus, and the vaginal portion of the diseased organ protruded between the labia. In November, 1871, the vaginal portion of the cervix was amputated, and after the wound had healed, the injections of ergotin were commenced on April 15th, 1872; after thirty-six injections the uterus was found to be freely movable, and so much diminished in size that one could apply with utility an annular pessary.

CASE V.—The patient was forty-four years of age. The uterus was of a volume corresponding to that of the organ in the seventh month of pregnancy; the swelling was very irregular, and on the right side had passed above the umbilicus and reached as far as the false ribs. The treatment was continued for 105 days, an injection of ergotin being made daily. There was considerable general improvement, and the fundus of the uterus sank considerably below the umbilicus.

CASE VI.—The patient was forty-five years of age. The uterus reached as far as the umbilicus and was anteverted; the anterior wall of the organ was occupied by a large fibrous tumor. The menstrual epochs were irregular and attended with much loss. In this case there was improvement after treatment; the fundus of the uterus descended to a point about midway between the umbilicus and pubic symphysis.

CASE VII.—The patient had suffered from profuse painful and irregular menstruation, and was anæmic and emaciated. The uterus was of the size of the

pregnant organ at the fourth month. At a menstrual epoch, after the administration of ten injections of ergotin, a polypus of the size of a hen's egg presented itself at the internal orifice of the cervix; but this, on account of the contracted condition of the cervix, could not be attacked. Twenty-four more injections were made. Menstruation became regular and free from pain, the uterus diminished in size and the polypus seemed to be smaller, less mobile, but not as yet accessible to the *écraseur*.

CASE VIII.—In this case the uterus was as large as an organ at the ninth month of pregnancy. After six injections had been administered, symptoms of poisoning by ergotin came on—as vertigo, painful contractions of the limbs, constriction of the chest, nausea. After a cessation of the treatment for ten days, six fresh injections were made: the symptoms of poisoning again appeared. A third attempt was also followed by similar affections. The treatment, which had produced no amelioration, was then discontinued.

As Dr. Hildebrandt remarks, ergotin administered by injection seems to be a powerful medicinal agent. In one case a tumor which had extended beyond the umbilicus, had disappeared; in a second, a tumor which reached as far as the false ribs, descended to below the umbilicus, and in four cases where the treatment had been less complete, there was improvement in both the general and local conditions. It is a remarkable fact that ergotin rendered menstruation less irregular, less abundant, less prolonged, and, above all, less painful. It is not easy to state precisely the mode of action of ergotin in these cases. It is probable that in consequence of the contractions produced by ergotin in the nutrient vessels of the tumor, and in consequence also of the compression in all directions by the contracting uterine walls, the nutrition of the tumor is interfered with, that then fatty degeneration and absorption take place. It is probable that intra-uterine tumors are more readily modified in this way than supéritoneal tumors, and myomata more readily than fibromata.

The solution of ergotin used in these cases is much less painful than that used by Langenbeck, which contains alcohol. These injections, states Dr. Hildebrandt, cause very little pain, and do not produce abscesses. The patient, after each injection with this solution, may return to her home. The lower parts of the abdomen are more sensitive to puncture and injection than the parts around the umbilicus. At a menstrual period, and shortly before or afterwards, a discharge of blood from the seat of puncture is readily produced.

ART. 249.—*Treatment of Carcinoma Uteri.*

By CHARLES R. DRYSDALE, M.D., M.R.C.P., Physician to the
Metropolitan Free Hospital.

(*Medical Press and Circular*, November 27.)

The amputation of the cervix uteri was formerly considered nearly an infallible remedy for cancer of the womb; and at present no internal medication is believed to possess any power over this frightful malady; so that the duty of the practitioner consists almost entirely in calming the agony and soothing the mind of the patient. This requires much kind attention and care. When cancer of the uterus has commenced by hemorrhage, all sexual excitement must be sedulously avoided; aperients used, to prevent the accumulation of fæces, and rest should, if possible, be maintained. Gallic acid, in doses of ten grains, is an excellent hæmostatic, taken thrice daily. The tincture of the perchloride of iron may be used locally, to staunch bleeding, when this is excessive. The author has often found this practice useful. Confections of senna or castor oil are the best purgatives, and succeed better in most cases than enemata. Pills composed of five grains of camphor, and five of hyoscyamus, are recommended by West, to commence with, as anodynes. These, added to twenty drops of chloric ether and twenty of compound spirits of ether, will often solace the pain. Indian hemp and chlorodyne are useful. Laudanum is the best tolerated of all the preparations of opium. Suppositories and subcutaneous injections of morphia are very useful in some cases. The use of

inhalations of chloroform is not to be much recommended in such cases, as in the great majority it causes such depression afterwards as not to be, on the whole, useful. In 1866, Dr. Greenhalgh said that the use of iodoform internally was sometimes successful in calming the pain in carcinoma uteri (*Br. M. Journal*, 1866). Démarquay, in 1867, used iodoform as a suppository with cacao butter, in the dose of seven grains. To destroy the fœtor, West recommended an injection composed of half a drachm of nitrate of silver to the ounce, into the tissues. A weak solution of chloride of lime, or Condyl's solution, is useful injected into the vagina several times daily. In advanced cases a drachm of creasote in a pint of water may be used. As to internal remedies, iron is the most useful. Five grains of the ammonia-citrate may be given. Vomiting may be attacked by giving the patient small pieces of ice to suck, or small quantities of effervescent liquids, or putting a mustard poultice on the epigastrium. Hydrocyanic acid is sometimes useful. In cases of cancer uteri, abortion is advisable at an early period of pregnancy, or premature labor may be brought on, otherwise incisions of the os uteri or Cæsarian section may be required.

Amputation of the cervix, which dates from the year 1802, when it was performed by Professor Oslander (who amputated the cervix in twenty-three cases) may occasionally be advisable. In some cases of cauliflower excrescence, the operation has proved quite successful; but it must be confessed that even in such cases the tumor is likely to return at no very distant date, although this is not quite *always* the case. The dangers from hemorrhage during the operation are not so great as they used to be, when the écraseur was unknown; but they are still formidable, and peritonitis and phlebitis frequently put an end to the patient. Mayer, of Heidelberg, objects to the écraseur, as it implicates parts as the operation goes on, which were not thought of when it was commenced; and Marion Sims relates a case where the peritoneum was opened up by the écraseur in amputating a cauliflower excrescence. Dr. Braxton Hicks's wire écraseur is a great improvement on the chain of Chassaignac in this operation, and galvano-cautery is likely to be had recourse to for it in future. Dr. Gallard, of the Pitié Hôpital, of Paris, injects perchloride of iron into the thickness of the tissues in uterine cancer by means of a syringe of Pravaz; Dr. Broadbent, of London, at one time advised recourse to injections of very dilute acetic acid, but this practice was soon abandoned, as fatal peritonitis may arise in some cases. Probably the actual cautery, whilst it is a good palliative in cancer, might prove successful in cases of the *hétéradénic* tumors of Cornil, or instead of using excision.

ART. 250.—*Report of a Case of Obstinate Procidentia of the Uterus cured by Actual Cautery.*

By EVORY KENNEDY, M.D., late Master of the Rotundo Lying-in Hospital.

(*British Medical Journal*, August 17.)

At the fortieth annual meeting of the British Medical Association, Dr. Kennedy related the following case: "Mary Burke, aged sixty, a widow with six children, had violent procidentia of the uterus, and could not retain any form of pessary. She suffered much distress; her general health was deranged; she was dyspeptic, and had lumbar pains. She was confined to the horizontal position, with the hips well raised, for a fortnight. The ulcers healed. The uterus was placed *in situ*, and astringent injections were used. The actual cautery was then applied about an inch and a half from the vulva round the surface of the vagina for the extent of about half an inch. My clinical clerk, who was somewhat of the Gil Blas school in criticizing his master, adds that the old woman was so indignant at this operation, which, for obvious reasons, it was deemed more considerate not to explain beforehand, that she left the hospital in a fit of indignation, because a hot iron had been applied to her inside, as she said, without saying 'With your leave or by your leave.' She eventually permitted the treatment to be followed up by the application of nitrate of silver:

and the report is thus continued by my clinical critic. At the expiration of two months, she was able to go about again. The uterus was *in situ*; and she had derived much benefit to her general health and condition, and a distressing pain, descending down the front of the thigh, from which she had constantly suffered, had disappeared. The cicatrix formed by the eschar prevented the descent of the os. He adds, however, this caustic comment on my operation: 'She certainly got a regular touching up.'

ART. 251.—*On Prolapsus Uteri.*

By CHARLES R. DRYSDALE, M.D., M.R.C.P.L., F.R.C.S.E., Physician to the Metropolitan Free Hospital, London.

(*Medical Press and Circular*, October 23.)

In cases where there is subinvolution of the uterus after confinement, it is the best treatment to confine the patient to her couch for a time, and then try to lessen the weight of the uterus: whilst in cases where there is rupture of the perineum, the uterus being of normal bulk, supports are clearly indicated. In all cases of inflammation and enlargement of the organs again, we must endeavor to treat the disease before having recourse to any other surgical procedure. Leeches to the uterus, or other means advised for the treatment of uterine catarrh, should be had recourse to, and all pessaries should be avoided, for a time at least. In all cases of procidentia, however, or in old case of prolapse, when the uterus is healthy, or in ruptured perineum, or when great suffering results from prolapse, we must try the effect of supports; again, when the bladder or rectum are much prolapsed. Nothing is of more importance than the choice of a pessary or internal support in the treatment of any form of prolapse of the uterus. The air-ball pessary of Gaziel, or the air-ring is often useful. Zwanke's pessary has been much praised; but the author confesses to disliking it for many reasons. Hodge's horse-shoe pessary is useful, but, in the author's opinion, the simple ring pessaries introduced by Dr. Graily Hewitt are by far the best ever brought into practice. Hewitt's ring-pessary is merely a copper wire ring coated externally with gutta-percha, and of various diameters, which can be moulded into any shape the practitioner pleases, thus being suitable for all cases of anteversion, retroversion, and prolapse. Sponge pessaries should never be used. They become rapidly most horribly fetid. As to stem-pessaries they are all difficult to manage, and expensive, and the author cannot recommend any of them. Ashburner's pad is an admirable support in cases of rupture of the perineum and procidentia. The most important purpose served by all pessaries which prove of any service, is to keep the uterus motionless. Pessaries, if worn at all, should not remain more than a week at a time in the vagina, since ulceration of the vagina may occasionally be the result of the long stay of any instrument; and another point is, that the very smallest size of pessary that will keep the uterus up should alone be used. In procidentia the parts should, as soon as possible, be returned into the pelvic cavity, and retained there by an Ashburner's pad, if the procidentia is of recent date, whilst the patient is kept in bed for some weeks, if possible. A few leeches may be useful to relieve the congested state of the organ prolapsed for some time. By attention to such wholesome rules, we may often succeed in causing the prolapse to cease, although the result is uncertain, especially when the prolapse has existed for a long time.

ART. 252.—*On Elongation with Prolapse of the Uterine Neck.*

By Dr. GUENIOT.

(*Archives Générales de Médecine*, Juillet, 1872.)

From the cases and reflections contained in his memoir the author deduces the following conclusions:—

"1. In certain women there exists during pregnancy, and occasionally at the

time of parturition, a special affection of the neck of the womb which generally passes unrecognized, and has not hitherto been the subject of any description.

"2. This affection may be designated under the name of *œdematous elongation with prolapse of the neck*, which indicates the principal constituent traits. Hyperæmia and turgescence of the organ, the arrangement of its cavity, which is transformed into a long and freely patent canal; the rapidity with which these symptoms may disappear, and the great facility with which they may be reproduced under certain circumstances, are all so many fundamental characters of the affection. Ulceration of the os tincæ, occlusion of the vagina, a thin and flaccid condition of the uterine walls, are also almost constant symptoms, as are also circumælvic pains, a feeling of general debility and variable disturbances in micturition.

"3. The causes of this change in the neck of the uterus are complex; they are derived from two sources: certain anatomical dispositions of the organ, and various circumstances exerting upon it a prolonged mechanical action.

"4. Although very rare, œdematous elongation with prolapse of the neck is without doubt a less exceptional affection than one would be inclined to imagine. Many observers have erroneously assimilated it to hypertrophic elongation or to simple prolapsus, to which affections, in truth, it presents a great analogy, but from which it is essentially distinguished by proper and very important characters.

"5. This affection is a source of pain and inconvenience rather than of menacing danger to the mother; but to the child it is a serious condition, since it may compromise its health or even its life by inducing a predisposition either to premature labor or abortion.

"6. The suitable treatment for this affection is to return the prolapsed organ into the vagina, and to retain it when reduced by means of a plug and a bandage applied over the vulva. Rest in the horizontal posture, and the use of the proper remedies in case of cough or diarrhœa, are necessary ancillary means. The employment of pessaries being very dangerous during pregnancy, this ought to be strictly proscribed, and also any operation on the vagina or neck of the uterus. During labor the attendant should carefully watch the process, and hold himself ready for any accident. Finally, after delivery he should reduce the prolapse, and prescribe during the period of lying-in an exceptionally prolonged decubitus."

ART. 253.—*Post-partum Inflammation, and its Treatment.*

By EDWARD MONTGOMERY, M.D.

(*St. Louis Medical and Surgical Journal*, February.)

The following case by Dr. Edward Montgomery, of St. Louis, is recorded for the purpose of illustrating the treatment followed:—

"Mrs. S., æt. thirty-seven, a primipara, taken in labor on the evening of January 20, 1869. A midwife was in attendance until 3 P.M. the next day, at which time the membrane ruptured, and a large loop of the umbilical cord protruded from the vagina. I was then sent for, and found about fifteen inches of the prolapsed cord in the vagina, the fetal head still high up, and seemingly resting on the superior margin of the pubic bones. The labor pains had been very severe since their commencement, the patient appearing to suffer great torture at the region immediately above the pubis; the pains in this region being sharp and lancinating. Her pulse was quick, hard, and wiry, and there was considerable tenderness and fulness in the lower part of the abdomen, occasioned most likely, in great part, by retention of urine. I caused the patient to get up on her feet in the bed, then to stoop forward with her head down on the bed so that her pelvis was well elevated, when I had little difficulty in returning the cord over the child's head; I kept her in the same position until she had a strong expulsive pain, when the head entered the superior strait so as to prevent the egress of the funis again; she now urinated freely, and I thought I would have little more difficulty with the case, but I was mistaken, for, although the pains continued for two hours with great violence, I believed

that the child would not be born alive without instrumental assistance; so I administered a warm salt and water injection, which thoroughly emptied the rectum, and applied the forceps and delivered a healthy male child, weighing about nine pounds.

"The placenta came away without any trouble, and the sanguine discharge was normal, but the patient seemed feverish and irritable, the pulse still quick and wiry, and the abdomen tender on pressure. I wrote a prescription for five grains of the sulphate of ammonia, half an ounce of gum arabic, and two ounces of spearmint water; of this solution the patient was to get a teaspoonful immediately, to be repeated every two or three hours if pained or very restless. I also prescribed twenty grains of the sulphate of soda in a tablespoonful of sweetened peppermint water to be given every three hours, and a piece of flannel saturated with turpentine and oil placed over the abdomen under the binder. I directed the room to be kept at an even temperature. I visited my patient early next morning and found her still feverish, that same hard, quick, wiry pulse, great thirst, anxious and restless, with much abdominal tenderness. The after-pains would come on very severe if the morphine was omitted for a longer period than two hours. I now ordered three drops of Norwood's tincture of *veratrum viride* to be given every hour and a half until the pulse came down to eighty, or until nausea ensued; the bisulphate of soda to be continued, the morphine also to be given in sufficient quantities to keep the patient easy, and the continual application of the turpentine stupes to the abdomen; and light nourishment. Although the patient had urinated, and the uterine discharge was free and natural, I injected a weak solution of chlorinated soda, warm, per vaginam.

"I visited the patient again in the evening, and learned that the medicines had been given regularly all day as directed; she had taken some seven or eight doses of the *veratrum viride*, and was now nauseated, and the pulse had lowered to nearly 80. I directed it to be omitted, but to resume its use if the skin became hot and dry, and the pulse became much accelerated. The skin was now moist, the thirst abated, and the abdominal tenderness not so great. I directed the continuance of the bisulphate of soda, and enough of the solution of morphia to ensure repose, and also prescribed five grains of quinine every three hours as long as the fever kept down. At my visit on the following morning there was still some abdominal tenderness with slight meteorismus, the pulse was eighty-seven, thirst not so great, and countenance more composed and placid. The skin had become dry and the pulse accelerated during the night, when two doses of the *veratrum* reduced the fever. The quinine and the bisulphite of soda, with an occasional dose of morphine, were kept up for the two or three following days, and the patient made a good and permanent recovery."

ART. 254.—*A Recto-Vaginal Fistula cured without an Operation.*

By G. F. MILLER, M.D.

(*Transactions of the Wisconsin State Medical Society, 1871, and The Medical Press and Circular, November 27.*)

Dr. Miller, of Grand Rapids, relates the following case:—

"May 16th, was summoned in haste to see the only child (a girl) of J. F. L., æt. seven months. Her pinched features and sallow complexion gave me anything but a favorable impression of the disease, which the parents were pleased to call canker, and which had existed for months previous in the form of aphthæ, and seemed to have travelled the whole length of the primæ viæ, evidently involving the structure in its pathway, as had been frequently evinced by muco-purulent evacuations. At this time there had been an evacuation from the rectum into the vaginal passage, which excited no little solicitude and anxiety. It was not until I saw the passage of the evacuations myself, that I was without doubt concerning this new and unnatural passage into the vagina. Upon examination, however, it was found that there had been actual ulceration

through both intestinal and vaginal walls. The opening thus formed was quite small, there being *tormina* and *tenesmus* during each evacuation. Urine scanty and highly colored, together with general prostration of the whole system. There are perhaps few questions in surgery which afford a better test of judgment, experience, and decision, than those concerning such cases as I now report. I confess I was much at a loss what course of treatment to adopt in this case. Positive directions were given, however, for a wet-nurse to be had, the mother's milk being almost entirely destitute of nutriment, she having suffered for a long time previous with stomatitis, and her general health being quite precarious. The next and by no means least indication was yet to be secured, viz.—to close and keep closed the unnatural passage into the vagina.

"One of the most important elements in the treatment of such cases is to be found in the great principle of rest, as carried out both in medicine and by an apparatus which will perfectly retain the parts in position and at the same time not interfere with the natural exit of urine. To secure the former an enema was ordered to be given once in three hours per anum, consisting of one-half ounce of the following preparation: *R. Opii pulv., gr. x; gum myrrh. ʒj; ext. glycyrrhiz. ʒss; Venice turpentine, ʒjss; ol. anisi; persulph. iron, āā ʒj; aqua fontanæ, Oj.* Mix and boil for one hour. The vagina was then packed with surgeon's lint, saturated with the following solution: *R. Ol. olivæ; glycerine, āā ʒss; carbolic acid, gtt. x.* Mix. The lint thus saturated was applied and kept in place by compress until after passage of urine, when it was removed and new dressings applied.

"17th. Evacuations less frequent; tormina and tenesmus subsided; packing was removed but once during the night; child very languid; no evacuations through the recent passage; continuation of above treatment was ordered.

"19th. Symptoms improved; evacuation from the bowels less frequent; urine very scanty; restlessness and some fever. Treatment continued together with the following: *R. Gelseminum; tinct. aconite root, āā gtt. v; spts. nitre, ʒj; syrupus; aqua fontanæ, āā ʒiij.* Mix. Dose every three hours.

"20th. All the symptoms much improved. This same treatment was continued with gradual improvement of the symptoms until the 25th, when the enema was discontinued, and one drachm of castor oil given, which operated quite naturally, the same day. On the 26th the packing and all medicine were discontinued. The child continued to improve from the first.

ART. 255.—*Mammary Abscess and its Remedy.*

By JOSEPH R. BECK, M.D., Lancaster, Ohio.

(*Canada Medical Journal*, June.)

As soon as there are any symptoms that mammary abscess is likely to occur, Dr. Beck has found the following prescription of service: alcoholic extract of belladonna, four drachms; glycerine a sufficient quantity to mix them to the consistency of a moderately thin paste. This is to be spread in a medium thick layer with a spatula, over and upon both mammary glands, from the sternum to the axilla. Cover with a cloth dipped in olive-oil, and this in turn with oiled silk. Allow the dressing to remain undisturbed during a variable period of from two to three or four weeks, inasmuch as it can be worn by the patient for any length of time without inconvenience.

ART. 256.—*Local Uses of Tannin in Prolapsus Uteri.*

By G. P. HACHENBERG, M.D.

(*New York Medical Record*.)

Dr. Hachenberg reports in the *New York Medical Record* several cases of the use of this remedy in prolapsus uteri, when other means had failed to afford relief. His method is as follows: A glass speculum is introduced into the vagina

so as to push the uterus into its place. Through the speculum a metallic tube or syringe, with the end containing about thirty grains of tannin, is passed. With a piston, the tannin is now pushed against the uterus, the syringe withdrawn, and the packing neatly and effectually completed, with a dry probang, around the mouth and neck of the womb. After the packing is completed, the probang is placed against the tannin, in order to hold it, and the speculum is partially withdrawn. The packing is now fully secured and the instrument removed.

The application of tannin holds the uterus firmly and securely in place, not by dilatation of the walls of the vagina, but by corrugating and contracting its parts. At first, the applications may be made weekly, finally but once or twice a month. It not only overcomes the hypertrophy and elongation of the cervix, but even, the writer thinks, induces a slight atrophy of the parts. As a remedy for leucorrhœa, where the seat of the inflammation is at the mouth of the womb or within the vagina, it actually gives speedy relief.

ART. 257.—*Two Cases of Puerperal Arthritis.*

By **EVORY KENNEDY, M. D.**, late Master of the Rotundo Lying-in Hospital.

(*British Medical Journal*, August 10.)

Dr. Kennedy places on record the two following cases:—

CASE I.—Puerperal Arthritis: Erosion of Cartilages of Elbow, Hip and Ankle Joints.—Kenny, three weeks delivered after a difficult and protracted labor, was awakened from sleep in the night by an acute pain in the left groin. In the morning she observed a swelling in the middle of the thigh, which at the end of two days had completely engaged the entire limb. The pain became less acute as the swelling increased, but never entirely subsided. Some days subsequently to the swelling of the thigh, she was seized with violent pain in the elbow, but did not perceive any swelling. All these symptoms progressively increased, notwithstanding frequent leeching, stuping, poulticing, opiates, and mercury. She was admitted into hospital on January 28, 1829; and on the 30th there was an obscure sense of fluctuation over the outer third of the thigh. An incision was made into it, but no pus followed. On February 3d she had a severe rigor; and on the 4th she died comatose. A *post-mortem* examination was made twelve hours afterwards. The cellular tissue throughout the entire thigh was filled with gelatinous lymph. An extensive abscess extended from nearly one extremity of the thigh to the other, between the periosteum and muscles. The muscles were pale and flabby, and appeared much softer than natural. About one inch of the upper part of the femoral vein contained pus: its inner tissue was vascular, but did not appear to have lymph upon its surface. The synovial membranes of the hip, knee, and ankle joints were filled with puriform matter. The cartilage covering the bones of the hip appeared healthy; whilst that covering those of the knee and ankle was in part removed by absorption, particularly in the ankle, where scarcely a trace of cartilage could be detected. The uterus was vascular, and inclined towards the left side. The lymphatic glands along the iliac vein were enlarged and vascular. The cartilage was removed altogether from the extremities of the bones forming the right elbow-joint. The viscera appeared healthy.

CASE II.—Puerperal Arthritis: Sterno-clavicular Articulation and Buttock engaged: Recovery.—Keating was delivered in November, 1837, of a still-born child, after a labor of thirty-five hours. There was some sloughing of the vagina, but not considerable, with a good deal of tympanitis of the abdomen, and irritation, which were relieved by turpentine followed by opium. On the eleventh day there was an erysipelatous state of the right elbow, which had been, she stated, painful three or four days previously. She was treated with nitrate of silver locally, and sulphate of quinine with hyoscyamus constitutionally. On the twelfth day she was attacked with erysipelatous inflammation of the left buttock (the elbow having become improved), which was also treated with the caustic and with quinine. On the sixteenth day there was an appearance of pointing in the buttock, and an eschar was made with potassa fusa. There was this day noticed some tenderness in the right iliac region. On the seventeenth day she complained of the left sterno-clavicular

articulation, which was swollen, red, and painful ; it was scored with caustic, the other treatment was continued, and wine was given. On the twentieth day a fresh eschar was made on the buttock, through the slough consequent on which a lancet was passed on the twenty-ninth day, giving exit to matter of a healthy character. The swelling of the sterno-clavicular articulation continuing, with decided fluctuation and uterine pain, there being present also great constitutional disturbance, an opening was made on January 11th, 1838, and exit given to healthy pus. She gradually improved after this, and left the hospital. There still remained some swelling, but the opening had healed.

ART. 258.—*On the Treatment of Puerperal Eclampsia.*¹

By A. B. STEELE, Liverpool.

(*Medical Times and Gazette*, August 24.)

The object of the paper was to show that the treatment of puerperal convulsions must be based upon a pure system of eclecticism. In plethoric conditions of the system, free general depletion was essential. The amount of blood to be taken depended, not, as has been laid down by authors, upon the severity or frequency of the paroxysms, but upon the state of the circulation in the intervals. In an overloaded state of the vascular system, bloodletting had a directly sedative action on the spinal centres ; while in an anæmic state of the system it only increased the mischief, by adding to the already augmented spinal irritability due to anæmia. Bloodletting in suitable cases had a twofold action—curative in its action on the spinal cord, preventive in its action on the brain, preserving that organ from the injurious effects of pressure liable to result from the continued pressure during the paroxysm. Convulsions had been attributed to cerebral congestion, but Dr. Marshall Hall has shown that no cerebral disease can produce convulsions, which are exclusively a lesion of the true spinal system, although congestion or fulness of the cerebral vessels may indirectly cause convulsions by counter pressure on the medulla oblongata. In uræmic convulsions, bloodletting acted also as an eliminant, by removing at once and directly an appreciable quantity of the poisoned fluid. Manual dilatation of the cervix and immediate delivery has been recommended as a universal rule, on the ground that the uræmic condition was speedily fatal—first to the child, and then to the mother. That this is a fallacy is shown by the fact that convulsions often persist for a long time after delivery, and, further, sometimes cases terminate favorably both to mother and child after some hours' duration ; besides, uræmia is not a constant condition in this affection. Early delivery, while proper in certain conditions, is hurtful in others, by adding to the already exalted excitability of the reflex system. Statistics have shown that the mortality is less when labor is not artificially hastened. The author attributed the death of the child to violent uterine action rather than to uræmia, and the maternal deaths were chiefly referable either to exhaustion or secondary cerebral mischief. Chloroform was most valuable under certain conditions, but could not supersede the necessity for depletion in cases of extreme vascular fulness.

ART. 259.—*Nitrite of Amyl in Puerperal Eclampsia.*

By WILLIAM F. JENKS, M. D.

(*Philadelphia Medical Times*, August 1.)

Dr. Jenks narrates a case of this affection, which was immediately and satisfactorily overcome by the inhalation of nitrite of amyl.

¹ Read before the British Medical Association.

ART. 260.—*On a Case of Pelvic Hæmatoma, or Retro-uterine Hæmatocele; with Remarks, especially as to the Source of the Hemorrhage.*¹

By SNOW BECK, M.D.

(*The Lancet*, October 26.)

A woman, aged forty, who had suffered from considerable dyspeptic symptoms, with severe hemorrhoids, who had never been pregnant, and in whom the catamenia had always been profuse, suffered during the periods for the last two or three years from severe pain in the left iliac region. During the last period this pain had been very severe; it suddenly ceased, and a few minutes afterwards an oval lump resembling a duck's egg was perceived, firmly pressed against the abdominal wall in the left hypogastrium. This was the uterus. A soft elastic swelling existed between the uterus and the rectum, bulging forwards the posterior wall of the vagina, and presenting a soft depression directly behind the orifice of the uterus. No constitutional symptoms followed, nor anything to indicate inflammatory action. On the seventh day some dark-colored clots and port-wine colored blood passed with a gush from the rectum; the swelling gradually subsided, and the patient gradually became well. It was concluded that an effusion of blood had suddenly taken place amongst the loculi of the pelvic fasciæ, probably from the rupture of a congested pelvic vein. The sources from which the blood came in pelvic hæmatoma were considered to be (a) rupture of an ovary which had previously undergone some process of degeneration; (b) rupture of a Fallopian tube, or the escape of blood from the congested vessels of this part, in which cases the blood would be effused into the cavity of the peritoneum; and (c) rupture of some varicose veins. When the vein was situated in the broad ligament the blood might be effused into the pelvic cavity or into the subserous cellular tissue. When the vein was situated in the pelvis the blood was effused in some of the loculi formed by the pelvic fasciæ. The reputed source of the blood by regurgitation from the uterus through a Fallopian tube, consequent upon some disorder of the menstrual function, was considered highly improbable; and the cases upon which this opinion was founded were closely examined. There was no evidence of this in any of the cases collected by Bernutz and Goupil, except where there was permanent obstruction to the outward flow of the catamenia, and consequent distension of the uterus. And the evidence was equally unsatisfactory in the twenty-seven cases recorded by Dr. Barnes. Some of these cases, with the remarks upon them, were closely examined. In the treatment it was considered unnecessary to interfere where there were no constitutional symptoms, and the effused blood was evacuated by the rectum or the vagina in a short time. But when this fortunate course did not occur, as a general rule it was desirable to procure the artificial evacuation of the effused blood,—when some weeks had elapsed without any signs of decrease in the swelling, when the swelling became more tense, more tender, and more painful, and when the temperature increased, the complexion became of a dirty-yellowish hue, the abdomen swollen and tense, when there were repeated shiverings, vomiting, rapid pulse, &c., the evacuation might be effected by a curved trocar passed in towards the centre of the swelling, or by free incision into the tumour. As a rule, the rectum was to be preferred to the vagina as the place for the artificial evacuation.

¹ Read at a Meeting of the Obstetrical Society of London.

ART. 261.—*Pelvic Peritonitis and Peri-uterine Cellulitis.*

By JAMES L. BROWN, M.D., of New York.

(American Journal of Medical Sciences, July, 1872.)

Dr. Brown says that while these affections are far more common than has generally been supposed, they are by no means so frequent as Courty estimates, who stated that they constituted about one-third of all uterine ailments. Of more than four thousand recorded cases of uterine disease, he is sure that the relative proportion of cases of this kind that can be diagnosed does not exceed one in ten.

The causes of these affections are chiefly these: Parturition or abortion, endometritis or ovaritis, operations, or injuries, escape of fluid into the peritoneum, exposure to cold, gonorrhœa.

The principal diseases from which they are to be differentiated are: Hæmatocele, fibrous tumors, uterine deviations, displacement and fixation of the ovary, fœcal infarction.

His records show that out of forty-nine cases of cellulitis, eleven followed labor or abortion, five were consequent upon operations, and in the remaining thirty-three the cause was either not known or not ascertained. Of sixteen cases of peritonitis five were due to labor or abortion, four to operations, and the other seven to causes not known or not stated. Ten of the cases of cellulitis and six of peritonitis occurred in nulliparous women. In regard to prognosis, so far as danger to life is concerned, there is, in most cases, nothing to be apprehended. Functional derangements of the ovaries, uterus, bladder, and rectum persist for a variable period, which is generally much less in cellulitis than in peritonitis. All evidences of cellulitis may pass away in a few weeks, but the signs of peritonitis, unless removed by pregnancy, generally remain for years.

ART. 262.—*Treatment of Pelvic Peritonitis and Peri-uterine Cellulitis.*

By JAMES L. BROWN, M.D., of New York.

(American Journal of Medical Sciences and New York Medical Record, September 16.)

Dr. Brown observes, in regard to the treatment of these affections, that the acute stage should be treated on general principles; anodynes, local depletion, fomentations, and sedatives are the chief therapeutic agents. After this stage has passed, the most efficient means of causing the absorption of the products of inflammation are, for both affections, successive fly-blisters over the hypogastrium, and the copious use of the warm vaginal douche every night and morning. The best apparatus for this is a keg that will hold two or three gallons, having an India-rubber tube attached to the stop-cock. This keg, being filled with water as warm as the patient can bear, is placed upon a shelf ten or twelve feet high; the patient being suitably arranged on a lounge or chair underneath, the free end of the tube is introduced high up in the vagina, and the water allowed to flow in a constant stream against the pelvic roof and the neck of the uterus. The rapid improvement that follows the use of these means in the majority of cases is astonishing even to those who have had much experience in the use of them.

The whole number of cases of which he has kept a record is eighty-seven. Of these, however, twenty-two are so incomplete as to be of very little value. The remaining sixty-five give the following results:—

	Cellulitis.	Peritonitis.
Whole number of cases	49	16
Acute cases	9	7
In married women	44	13
In single women	5	3
In nulliparous women	10	6
Tumor on right side	17	1
Tumor on left side	28	1
Tumor on both sides	4	14
Following labor or abortion	11	5
Following operations	5	4
Cause not ascertained	33	7
Resulting in suppuration	3	1

ART. 263.—*On the Internal and External Orifices of the Uterus: their Anatomy, Physiology, and Pathology.*¹

By J. HENRY BENNET, M.D.

(*Medical Times and Gazette*, August 24.)

Dr. Bennet commenced by stating that, owing to the non-recognition of some important facts connected with the anatomy and physiology of the orifices of the uterus, which he pointed out twenty-four years ago, in the second edition of his work on "Uterine Inflammation," practice continued in a chaotic state as regarded the pathology and treatment of these orifices. Thus, some practitioners, following the example of the late Sir James Simpson, constantly saw stricture of the os uteri internum in varied morbid uterine conditions, and divided it in a routine manner; whereas other practitioners, of whom Mr. Marion Sims was an illustrious example, in exactly the same class of cases, all but ignored stricture of the os internum, and divided the os externum, along with the cervix uteri, down to its vaginal attachments. Thus, the practice of one class of practitioners was negatived by that of the other. He himself still thought that they were both wrong—pathologically and surgically—in a very large proportion of the operations performed. Anatomically, the uterus presents two cavities—that of the body of the uterus, and that of the neck. The larger cavity—that of the body—was separated from that of the neck by a vital sphincter, formed by the circular fibres of the cervical structure. There was not a distinct demonstrable sphincter, like that of the anus, but the circular fibres of the cervix exercised the functions of a sphincter, vitally closing the uterine cavity. It was worthy of remark that all the large cavities had sphincters. This vital contraction of the os internum resisted the introduction of a sound in the healthy female, although it yielded to the gentle pressure of a small wax bougie, previously warmed. Thus the non-passage of a sound, on examination, was the natural healthy state, and not the sign of a stricture requiring operation. An open patulous condition of the os internum, on the contrary, implied in most cases inflammatory disease, or morbid aggrandizement of the body of the uterus. Dividing the os internum in these cases, was, generally speaking, mere interference with a healthy normal anatomical state, and not justifiable. This vitally closed os uteri relaxed evidently during menstruation, as it also probably did for conception. In some exceptional cases, however, of congenital or pathological dysmenorrhœa, or in pseudomembranous dysmenorrhœa, the os internum did require dilatation or division. The os internum, although less vitally contracted, was normally closed; and if a good-sized bougie could enter with ease, its division down to the vagina was not justifiable. He did not see how the surgical production of one of the accidents of labor—laceration of the cervix—could cure dysmenorrhœa, sterility, etc. He thought these anatomical points should be definitely settled, as a necessary guide to practice.

¹ Read before the British Medical Association.

ART. 264.—*On Puerperal Septicæmia.*

By M. A. D'ESPINE.

(Archives Générales de Médecine, Octobre, 1872.)

1. Puerperal septicæmia is constituted by a series of symptoms more or less severe according to the dose of septic material absorbed by wounds on the walls of the utero-vaginal canal.

2. These symptoms present nothing that is special to the puerperal condition, and may be assimilated to those which are caused by septicæmia in wounded subjects and in animals.

3. The starting point is always in the uterus or vagina; all the causes which prevent cicatrization of the uterine wound and which favor the development of septic materials on its surface, are efficient causes of puerperal septicæmia.

4. The lymphatics are the habitual road of the absorption of the poison; lymphangitis is the usual but not a necessary indication of its passage.

5. *Peritonitis* is an associated lesion due to the transmission of septic material by the uterine lymphatic vessels; it may be compared to local inflammations which are developed around infected wounds.

6. The effect of septic absorption on the organism is to determine congestions and inflammations in all organs, especially the lungs, kidneys, and intestines; subserous ecchymoses or interstitial apoplexies, internal or external inflammations localized by preference in serous membranes; *during life* this action is manifested by fever, diarrhœa, pulmonary congestion, epistaxis, and often by temporary cutaneous eruptions.

7. Purulent absorption and septic absorption may be confounded by the bedside.

8. There is no such affection as milk-fever; the fever of the first week is almost always a slight septicæmia due to an absorption of the lochia by small wounds on the walls of the utero-vaginal canal. When the uterus does not contract and the lochia remain fetid, this fever may persist for some weeks. In cases of this kind one may almost always find ulcers in the neck or vagina.

9. These slight infections are often, but not always, accompanied by uterine angioleucitis and signs of mild perimetritis. When the infection is prolonged it may lead to consumption and death (septic phthisis).

10. Puerperal *pyæmia* is a complication of septicæmia, and almost always coincides with suppuration in the veins of the uterus.

This complication, which is relatively rare, is due in all probability to septic emboli.

Visceral metastatic abscesses are tributary to this, whilst all inflammations of the cellular tissue and of the articulations are due to lymphatic infection, and are not embolic in their nature.

ART. 265.—*Local Treatment of Leucorrhœa.*

By D. M. CLAY, M.D.

(American Practitioner, August, 1872.)

Dr Clay advocates in this disease the process of irrigating the vagina and cervix, twice a day at least, with the "fountain" (recommended by Scanzoni), or "Davidson's" syringe. In no case where it is not positively contraindicated would he suggest less than one gallon of warm water. He infinitely prefers the warm to the cold, in consequence of there being no shock or reaction afterward, two very important considerations in the treatment of uterine disease. After each irrigation is finished, the parts are in a condition to receive medication, either in the form of ointment, solution, or solid. He generally prefers the solution holding some of the preparations of iron, for instance, ferri iodidi, ℞j; aqua pura, ℥viij; or ferri sulph. in same proportions. Argent. nitrat.,

cupri sulph., potass. iodidi, potass. chloratis, and the vegetable astringents are all excellent remedies for this purpose. After the cervix has been thoroughly exposed there will frequently be observed a thick, glairy, tenacious mucus, plugging the os, which will require for its removal some effort on the part of the operator. This is best accomplished by using small pieces of cotton, attached either to a sponge-holder or a long delicate pair of forceps. The parts being in a condition for the application of remedies, he usually then uses chromic acid dissolved in water, one part of the former to two of the latter. While on the probe or sound, the cotton is saturated with the chromic acid solution, and introduced gently into the cervical canal, fully one and a quarter inches, and allowed to remain only a few seconds. This application should not be repeated oftener than every six or eight days, and not then unless positively indicated. When the discharge proceeds from the cavity of the uterus, either from the body or fundus, he has found the acid nitrate of mercury invaluable for its relief, but great care should be taken to see that the os and cervix are well dilated before recourse is had to this remedy. His plan is to saturate a small pledget of lint or cotton with the acid nitrate of mercury, and fasten a delicate string around it, so that it can easily be withdrawn, and gently introduce it to the fundus, allowing it to remain for six or eight hours, and then remove it. Repeat this once or twice weekly for two or three weeks, and the result will be most satisfactory.

ART. 266.—*Treatment of Menorrhagia.*

By CHARLES R. DRYSDALE, M.D., M.R.C.P.L., F.R.C.S.E., Physician to the Metropolitan Free Hospital, London, and to the North London Hospital for Consumption and Diseases of the Chest.

(*Medical Press and Circular*, October 2.)

With regard to the treatment of menorrhagia in cases where there is debility and atony of the system, the use of hygienic remedies, change of air, and cold bathing will often effect a cure. Hydropathy and sea-bathing are often admirable remedies in such cases. In cases where excessive lactation is accompanied by menorrhagia, cessation of lactation will sometimes of itself cure the patient. Lead-poisoning should be treated by iodide of potassium in ten-grain doses, and the patient cautioned to abandon work for a time at any rate. When the cause resides in a plethora of the abdominal viscera, the patient must live very temperately and take saline purges, such as a drachm of the sulphate of magnesia with ten grains of nitre occasionally in an ounce of peppermint-water. In a vast number of cases of atony of the system and flabby condition of the uterus, the author has found no remedy equal to that of the tincture of the perchloride of iron, in doses of twenty to forty drops in an ounce of water. In severe cases, the patient should keep in bed or recumbent at menstrual periods, and should take a brisk purge. In cases of inflammation of the uterus, accompanied by menorrhagia, leeches to the cervix uteri are often of much service, according to some, just before the menstrual epoch, with drachm doses of Epsom salts in a mixture with eighteen drops of dilute sulphuric acid and an ounce of cinnamon-water, taken occasionally. Menorrhagia is far more commonly united with debility than with plethora, and, in addition to perchloride of iron, alum, gallic acid, tincture of digitalis, and even lead, have all gained some reputation as astringents in such cases. Matico is used by Tyler Smith. Tincture of digitalis may be given in ten-minim doses; alum in ten-grain doses; gallic acid in doses of fifteen grains; or an infusion of the leaves of piper angustifolium matico may be used. Many practitioners are loud in their praises of ergot of rye in *passive* menorrhagia. The most simple preparation of ergot is the infusion, but a preparation of Mr. Long, of Dublin, is described by Dr. W. Curran and others as being most efficacious. The liquid extract of ergot of the British Pharmacopœia may be given in twenty-minim doses, alone, or combined with perchloride of iron. Digitalis has been found by Dr. Robert Lee to be a powerful means of arresting menorrhagia in some cases. Two

drachms to half an ounce of the infusion of digitalis many say may be given as a dose, taking care not to continue this treatment long. It seems that digitalis acts by causing contractions of the fibres of the uterus, just as ergot does. Trousseau, of Paris, repeated some experiments of Lee and Dickinson on this point with success, but disapproved of the large doses used in England.

In very bad cases cold enemata may be of service occasionally, used twice daily, with frequent washing of the vulva, etc., with cold water. Astringent injections into the vagina are also useful, and infusion of maticao may be used for this purpose. As a last resource the vagina or the uterus may be plugged, or injections may be made into the uterus. The speculum may be used for plugging the vagina, which may be done by means of lint dipped in solution of perchloride of iron. The injection of a solution of gallic acid in the proportion of twenty grains to the ounce of water, or the tincture of iodine, have both been recommended in cases of dangerous menorrhagia by West, Routh, and others. Dr. Avard, of Paris, in a pamphlet written in 1867, recommends the use of a double-barrelled sound where such injections into the uterus are required. The main point is that they should only be used in desperate cases, and tents, to dilate the os uteri previously, are of great service in such cases. Transfusion has been used lately by Dr. R. MacDonnell with great success.

ART. 267.—Treatment of Dysmennorrhœa.

By CHAS. R. DRYSDALE, M.D., M.R.C.P.

(*Medical Press and Circular*, October 2 and 9.)

Painful menstruation is supposed to arise from three main causes—neuralgia, congestion, and mechanical stoppage to the outflow of the blood. In neuralgic dysmenorrhœa, hot baths of half an hour are very useful, conjoined with rest in a warm bed, or sofa; and ethereal draughts (such as twenty drops of spiritus ætheris compositus, with twenty of spirits of chloroform in an ounce of camphor julep), or sal volatile may be used; or sumbul, in doses of three grains, or hyoscyamus in doses of five grains of the extract. Indian hemp, or the inhalation of chloroform or ether, are rather heroic remedies. Morphia may be taken in half-grain doses, either by the stomach, or, better still, as a suppository. M. Bernutz, of Paris, praises the extract of hemlock in dysmenorrhœa. The root freshly powdered may be given in doses of four grains, or the succus conii may be used. Bromide of potassium has been much praised by Raciborski in doses of from five to ten grains. Lupulin is often used, in doses of four grains. In cases of congestive dysmenorrhœa the application of leeches to the cervix uteri is often useful. Four or five leeches, put up to the cervix uteri by means of a glass speculum, are all that are requisite; or the uterus may be scarified by a long knife, just as is done in ophthalmia neonatorum. Hot-water bottles (those of galvanized India-rubber are best) may be laid over the hypogastrium, and the bowels kept free by enemata, or doses of Epsom salts. As to the rare cases of extremely small os uteri, these are usually accompanied by an undeveloped condition of the uterus. To assert, as Dr. Marion Sims does, that the treatment of the majority of uterine diseases should be surgical seems to the author to be absurd in the highest degree. According to that gentleman, who advises incision of the cervix more than even Dr. Simpson or Mr. Spencer Wells, this operation produces surprising and salutary effects in dysmenorrhœa, which, in his eye, is always mechanical. Incision may give rise to fatal hemorrhage, according to Dr. Kidd, in the Dublin Obstetrical Society, 1866. And Dr. Gream, of London, says, that the division of the cervix sometimes brings on either a consecutive relaxation, which is prejudicial to gestation, or a scar. Dr. Barnes, in cases of conical cervix, divides the external os uteri, whereas Drs. Greenhalgh and Routh say that in the great majority of cases the stricture is at the internal os uteri. In France and in Germany there are but few who agree with the practice of Sims, Greenhalgh, and Routh in this point. The uterus may suffer terribly from these heroic practices, and abscess in the pelvic cavity may arise from them, according to

West and others. The introduction of the uterine sound, or of various sizes of sounds, may sometimes do much good in mechanical dysmenorrhœa, and the use of tents of *laminaria digitata* is often indicated, until the uterus is large enough to let enter a sound of the size of a No. 9 catheter. The hysterotomes of Simpson, Greenhalgh, or Mathieu, are only required in cases of cicatrix after laborious confinements.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 268.—*Case of Hydrocephalus Treated with Bromide of Potassium.*

By JOHN BRUNTON, M.A., M.D., L.F.P.S.G., Fellow and Councillor of the Obstetrical Society, London.

(*Glasgow Medical Journal*, November, 1872.)

The rationale of Dr. Brunton's treatment is this, that in acute or chronic hydrocephalus there is a certain amount of irritation, or inflammation of the brain and its membranes; that, of course, with this irritation there is increased vascular (blood) supply; that the arteries carry more blood to the brain and its membranes than the veins are capable of returning; then the result is effusion and its products. It occurred to the author that if he could give some medicine whose power consisted in diminishing the supply of blood to the head, he would thereby overcome the effusion itself, the continuance of that effusion, and the tendency thereto, and absorb the products. That medicine Dr. Brunton believes to be the bromide of potassium, and the results, he thinks, bear out his idea.

ART. 269.—*Headache in Children.*

By W. H. DAY, M.D., M.R.C.P.

(*British Medical Journal*, Nov. 9.)

At a meeting of the Harveian Society of London, October 17th, Dr. W. H. Day read a paper on "Headache in Children." After some remarks upon the symptomatic value of headache as a term, the author glanced at the commonest varieties of headache in childhood, and then dwelt especially on a peculiarly functional form of which numerous examples had come under his notice. These were doubtless associated with some intricate change—physical, structural, or chemical—which may not be capable of detection, but going on within the cranium, giving rise to some confusion or abnormal sensation in the head, or to actual headache. This peculiar cerebral change is accompanied occasionally, but not of necessity, with some enlargement of the head and wasting of the extremities—the muscles become flabby and the joints loose; also there are pallor and debility, restlessness by night, irritability by day, a slow and sometimes irregular pulse, with dull and persistent headache. The temperature is normal. Dr. Day noted in treatment of these cases the value of bromide and iodide of potassium in the early stage; tonics, iron, and bark, with cod-oil being inappropriate till later, when they aid the cure.

ART. 270.—*On the Use of Hydrate of Chloral in Cases of Hooping-Cough.*

By Dr. KARL LOREY.

(*Deutsche Klinik*, 46, 1871; *Schmidt's Jahrbücher*, No. 3, 1872.)

The author, who is physician to the Children's Hospital at Frankfurt, commenced his observations in May, 1871, when the first instances, of an epidemic then prevailing, appeared at this institution. Of a mixture containing one part of hydrate of chloral to thirty parts of water and three parts of syrup,

from one to three teaspoonfuls was given daily, according to the age of the child and the severity of the affection. This agent was administered on the first appearance of decided paroxysms, and was continued until the cough had nothing more than a catarrhal character. The daily quantity of hydrate of chloral varied in different cases from 0.25 to 1 gramme.

Fifteen children were thus treated by Dr. Lorey; some of these had been admitted between one and three weeks after the commencement of the whooping-cough, others had caught the affection in the hospital. The author had also administered the hydrate of chloral to a number of children in private practice. In all these children the ages varied between one and eight years, some of them had been healthy up to the commencement of the whooping-cough, others had been very scrofulous. The results of these observations, which were carried on for four months, are given in the following propositions.

1. The medicinal agent was well tolerated by all the children and did not give rise to any kind of disagreeable result.

2. In the course of a few days the severity of the paroxysms had much diminished and they were less frequently followed by vomiting; their frequency also was much reduced, and seldom more than twelve attacks were noted in twenty-four hours.

3. The patients during the night were almost free from disturbance through paroxysms of coughing, and after an attack, when one did occur, the child rapidly went to sleep again.

4. The duration of the convulsive stages was remarkably short, especially in those cases which Dr. Lorey was enabled to watch from the commencement of the affection; in the hospital cases it lasted from ten to twenty-one days.

ART. 271.—*Chloral Hydrate in Pertussis.*

By BRYNBERY PORTER, M.D., Physician to the New York Free Dispensary for Sick Children.

(*New York Medical Journal*, July.)

Dr. Porter thus sums up his experience of chloral hydrate in pertussis, as exhibited at the dispensary:—"I am fully convinced of the marked effect of chloral hydrate in alleviating the symptoms of pertussis, and that there seems to be some evidence (though my number of cases is certainly very limited) to show that it has a positive effect in cutting short the disorder. It is the only remedy I have employed in this affection at the Children's Dispensary for some time.

ART. 272.—*The "Open Air" Treatment of Hooping-Cough.*

By DANIEL MACLEAN, M.D., L.F.P.S.G.

(*Glasgow Medical Journal*, November.)

The method of treatment which Dr. Maclean advocates is called the "open air" treatment of whooping-cough; that is, in the treatment of any case of whooping-cough, to keep the little patient, as much as circumstances will admit, in the open air, in contradiction to the advice of authors on the treatment of this disease, where the contrary is recommended; as, for example, Dr. Smith in Reynold's "System of Medicine," who says, the patient should be kept at a temperature of 64°, and that the body should be kept perfectly quiet. Sir Thomas Watson also says, that "the patient in cold weather should be confined to an equable temperature, or protected by warm clothing, and care should be taken to keep the air equable. The air in the bed-room should not be colder than that in which the child has passed the day. It should not be much above, nor much below, 60° Fahrenheit." Other authors are equally plain and full in directing that the patient should be kept within doors; some of them indicate all seasons of the year. The full benefit of the "open air" plan can only be obtained by directing the patient to be out of doors, what-

ever the weather may be. Dr. Aitken recommends change of air only as a last resource, when all other remedies fail; whereas, the "open air" treatment must be begun from the first. From its early use we are less likely to require change to the sea-side towards the termination of the complaint.

The pathology of the disease sufficiently explains the action of the mode of practice Dr. Maclean wishes to introduce. The great characteristic of pertussis is the violent and recurring spasmodic cough, which differs distinctly from the cough depending on irritation of the bronchial tubes, in so far as we have no local irritant in this disease, but depends on causes, we believe, totally separated from the lungs. Whatever the primary cause of the cough may be, it comes on in a completely healthy condition of the lungs. Dr. Aitken says, and in this opinion the author agrees, that, "inflammation is not necessarily found, although a state of the mucous membrane exists by which it is morbidly irritable or susceptible to impressions." By the recurrence of the cough, the lungs soon lose their normal state, and changes are induced which are not only caused by, but, when formed, also excite this peculiar spasmodic cough. We have thus an accumulation of material which acts as a local irritant, and is superimposed on the specific irritant of the disease.

The parts of the lung in which we are at present most interested are the ultimate divisions of the bronchial tubes, and the air vesicles themselves. The constant expansion of the cells at each inspiration, and their subsequent relaxation, facilitates and increases the onward current of the blood, and prevents it from becoming too sluggish for health. The oxidation of the blood reacts healthfully on the elastic tissues—as the blood, pure or impure, cannot avoid acting upon the neighboring parts—and keeps them in tone and vigor, thus enabling them to discharge their functions with ease, and play their part in the proper purifying of the blood. The effect of the spasm of whooping-cough changes this condition of matters. On its accession we have tonic and forcible contraction of the fibrous tissues, brought on by the specific action through the nerves. This being kept up during the continuance of the cough, completely empties the cells of their air, tidal and residual; stops and delays the passage of the blood in the capillary vessels. The action of the spasm on the air cells in this way causes congestion of the bloodvessels of the lungs, and even retards the flow of blood supplied to nourish the air tubes themselves, because not only have we the spasm acting on the capillaries of the air cells, but on those as well which supply the smaller bronchial tubes.

The effects of the spasm do not pass away instantly, nor are the proper functions of the part resumed immediately, as if they had never been disturbed. By an external examination with the stethoscope, shortly after one of the fits of coughing, we find evidence of congestion still remaining, and which will remain a longer or shorter time, according to circumstances. In other words, the effect of the spasm upon the normal condition of the tissue and minute parts of the lungs is—judging from results—of the nature of paralysis, though of a temporary character; at all events the strength of the contraction brought to bear upon the minute tissue is so great that on the removal of the contracting force they are unable to resume their duties till they have regained somewhat of that tone which they had lost.

We know the result of congestion and relaxation throughout the other parts of the body. The same happens in congestion of the air-cells and bloodvessels of the lungs. Blood ceasing to flow; relaxed tissues and exudation of fluid into the cavities of the cells and tubes. In this way we have those diseases of the chest which most frequently follow an attack of whooping-cough, bronchitis, pneumonia, emphysema, collapse of the lung, etc. Our object at present is not with the complications of whooping-cough, but to give the *rationale* of a style of treatment which, though it does not cure the disease, enables us to keep it in its simplest form—preventing complications—and lead it to a safe and satisfactory termination.

Dr. Maclean's recommendation in the treatment of the whooping-cough of children is to allow them every facility for being in the "open air;" to go on with their usual games, taking care in the cold weather to have them well and warmly clad, as is recommended by most authors; to romp about and enter into

all the life and action usually characteristic of children, not stinting them in regard to motion, though this has been objected to by some writers as tending to cause an accession of the cough. In children too young to play without a guide the patient ought to be carried out of doors, only using such precautions as would be taken with them in the usual state of health.

Considering what has been remarked regarding the action of the spasm upon the minute tissues of the lungs, we have the production of a debilitated condition of the parts surrounding, and commencing in the ultimate ramifications of the bloodvessels—including those supplying the bronchial tubes—and involving, to an appreciable degree, the strength of the whole system in its depressing effects, our first object in treatment, seeing we cannot check the disease itself, is to prevent the lungs and body generally from being so lowered in strength that the complaint can overpower the patient. In treatises on this subject, means to prevent weakness were recommended to be adopted towards the termination of the illness, instead of from the beginning. The treatment should be much that followed in fevers—keep up the strength and treat complications. Hitherto the treatment has been to attack the disease itself as embodied in the cough, but not knowing its nature, our efforts have been more or less useless. By putting the body into proper condition, and keeping it so—the disease itself not being necessarily fatal—it will be enabled to resist the extra strain put upon it by the whooping-cough. Practically, by giving the patient plenty of fresh air and causing him to take exercise, he is receiving continuously tonic treatment. Any temporary depressing effect the disease may have on the body will be counteracted by the immersion of the body and lungs in this penetrating tonic fluid. Tonic medicine can only act fitfully, and by circuitous channels through the blood; but the continuous application of the cold-air bath—which is even applied locally to the affected tissues through the air vesicles—keeps the bracing material in contact with the body, and with the parts more immediately weakened, at the time the depressing agency is at work. So soon as the paralyzing power is removed the tonic resumes its sway, and props up all the parts till the return of the cough, when they are better able to resist and not allow new complications to arise. It will thus be seen why it is not necessary to keep the little patient “quiet and still” to prevent the induction of the paroxysm. The cough will return at regular intervals, whether you keep the patient in one position or not; but if you allow no movement, and enforce the dwelling in a warm and unvarying temperature, you allow the effects of the spasmodic cough to have full sway, so that neither medicine nor food has power to check the increasing debility. By allowing unrestrained muscular exertion and exposure to the tonic action of the air you keep the body in a condition to resist those secondary results and to bear up till the disease has run its course.

To state the management of whooping-cough in a few words, this treatment Dr. Maclean would recommend at all seasons of the year, summer and winter. In the winter warm, in the summer light, clothing; nourishing and easily digested food; free exposure to the ordinary atmosphere, combined with muscular exercise when practicable; cold baths night and morning, with friction to the skin, the temperature of the water according to the age, etc.; and an occasional purgative.

ART. 273.—*Cold Food for Infants.*

By F. KING, Surgeon U.S.A.

(*British Medical Journal*, August 10.)

Under the above heading Mr. King writes to the *Philadelphia Medical Times* as follows:—

“Our best authorities direct that the [cow’s] milk should be given to the child at the same temperature as that of the mother’s milk—from 90° to 95° Fahrenheit—and, when great accuracy is required, a thermometer employed. On reflection it is obvious that these instructions can never be carried out so

that the little one will take all its food at the same temperature; for during a meal the bottle becomes cold, and there may frequently be considerable difference of temperature between the first and the last milk imbibed by the infant. It is unnecessary to state that very little will upset the feeble powers of the digestive organs in the early days of infantile life; and this difference in the temperature of the food, I am disposed to believe, is one of the causes of gastric and intestinal disorder which we so often have to deal with among infants brought up by hand. Instead of giving warm milk, I have adopted the plan of giving cold milk entirely—ordering the babe's bottle to be kept standing in iced water in the summer and in a cold place in winter. This method I have found, from practical experience, to answer remarkably well. If there is any tendency to diarrhœa I recommend the milk to be heated to 212° Fahr., and afterwards allowed to get quite cold before being used. In private practice I am of opinion that bottle-fed infants generally have their food given them too warm. . . . They soon like it even better than warm food, and during the teething period cold milk seems especially agreeable to the inflamed gums of the little sufferers." The above plan for the preparation of food for infants is, the *Boston Medical Journal* thinks, worthy of trial. We all know the difficulty of having artificial food properly prepared, notwithstanding minute directions are given concerning it and the importance of keeping the nurse-bottle scrupulously clean. Many devices are resorted to by those who have the care of infants to avoid the trouble of freshly preparing the food every time it is wanted, and the temptation is great, particularly at night, to have in readiness a quantity sufficient for several meals. As a consequence come the various disturbances to the system resulting from the ingestion of food which is often sour before it is taken. If it can be given cold without detriment to the child, there seems to be no good reason why the diet should not always be fresh."

ART. 274.—On *Hæmoptysis* in Children.

By Dr. RASMUSSEN.

(*Hospitals Tidende*, xiv. 109, 113, 1872; *Schmidt's Jahrbücher*, No. 7, 1872.)

Hæmoptysis in children, especially in those under six years of age, is, as is well known, a very rare phenomenon, whether as a result of phthisis or as an initial affection. The following cases, therefore, seem to be of great interest:

As an example of initial idiopathic hæmoptysis, Dr. Rasmussen reports a case in which the pulmonary bleeding occurred in a boy aged eleven years, who, after violent exercise in a warm atmosphere, had been exposed to a draught of cold air; the hemorrhage was not considerable, and ceased in the course of four days. During the subsequent four months no signs of pulmonary phthisis were manifested.

Dr. Rasmussen gives an elaborate report of a case in which a boy aged six years died suddenly from hæmoptysis. On post-mortem examination he found suppurative inflammation of the cervical glands and of the root of the lung, with perforation of the right bronchus and the right branch of the pulmonary artery, catarrhal pneumonia, diffuse interstitial nephritis, and caseous degeneration of the mesenteric glands. During life percussion gave a dull sound, and auscultation revealed bronchial breathing and large crepitation at the inner portion of the right infra- and supra-spinous regions. The cough had a peculiar hollow tone. There was no general tuberculosis.

The third case was one of fatal hæmoptysis occurring in the course of phthisis in a boy aged three and a half years. On a post-mortem examination Dr. Rasmussen found caverns, chronic interstitial pneumonia, peribronchitis, and miliary tuberculosis in the lungs, an aneurism of the pulmonary artery opening into one of the caverns, miliary tuberculosis of the pleura, spleen, liver, and kidneys, caseous degeneration of the bronchial glands, and tuberculous ulceration of the ileum. From the pathological termination of the chronic pneumonia partially in chronic pneumonia and partially in caseous degeneration—both of which led to formations of caverns—it is

evident that the course of the disease was the same as that generally taken in adults.

Dr. Rasmussen associates the fact that hæmoptysis rarely occurs in children with the pathological peculiarity in the pulmonary phthisis affecting such patients. It is known that caverns, are not frequently formed in children, and that, as a rule, in this class of patients caverns, when formed, are the result of necrosis of the central portions of dry caseous masses; in these instances the surrounding vessels have been obliterated, and therefore cannot give rise to hemorrhage. As the child advances in years the tendency increases to the development of the kind of caverns met with in adults—hollow spaces, the walls of which are formed of condensed lung tissue which contains vessels that are not obliterated. Besides these there are caverns which are apparently influenced by a slight degree of bronchiectasis. These occur most frequently in adults, rarely in children; consequently the formation of vascular dilations must occur less frequently in the latter.

ART. 275.—*On Rachitis.*

By JOHN S. PARRY, M.D., Philadelphia.

(*American Journal of Medical Sciences.*)

Dr. Parry is not prepared to adopt the view that rickets is hereditary, though this opinion has been supported by some illustrious authorities, such as Herring, Ritter von Bittershain, Hennig, Stewart, Whitehead, Merei, Aiken, Willshire, Niemeyer, Vogel, and Hillier. Meigs and Pepper believe that there is no evidence to show that it is ever hereditary. Holmes is of the same opinion. Before this Gregory had spoken more positively upon this point, saying that the constitution of the parents has little to do with the production of the disease; but the most positive authorities in regard to the matter are Routh E. Smith, and Sir William Jenner, all of whom deny that it is even transmitted from parent to child. Dr. Parry has several times seen women who presented indubitable evidences of having suffered from rachitis in early life, and who had borne large families, none of whom presented any manifestations of the disorder. It has been spoken of as a diathetic disorder, but it is not diathetic as struma, tuberculosis, and syphilis are. In other words, the child is not born with a predisposition to rickets, except so far as it is influenced by age. The most potent and frequent cause of the disease is the use of improper food. Long ago it was noticed that this affection might manifest itself after any acute disease which prostrated the child; and that rickets is debility modified by age (Gee's idea) does not seem so far wide of the truth. According to the author's experience sex has no influence in causing the disease.

ART. 276.—*Treatment of Cholera Infantum.*

By JOHN O'REILLY, M.D.

(*American Practitioner, August.*)

Dr. O'Reilly recommends in the gastric types, where exhaustion soon occurs and cerebral symptoms are apt to set in early, calomel and bromide of potassium, with tincture of hyoscyamus, as follows: R Calomel, gr. x; pepsine, subnit. bismuth, ʒʒ gr. iij. M. Divide into ten parts, of which give one every hour.

R Bromide potassium, ʒss; tincture hyoscyamus, ʒij; water, ʒj. M. S. A teaspoonful every three or four hours. The bromide of potassium acts as a brain sedative, the hyoscyamus exerts a general soothing power, while the calomel, by its peculiar purgative action, relieves gastric congestion.

In cholera infantum of the intestinal form he prescribes the following: R Acetate of lead, gr. iv; glycerine, ʒj; mint water, ʒss; tinct. opium, ʒ ij; distilled water, ʒiij. M. S. A teaspoonful every two hours until the opera-

tions are less frequent. This alone frequently relieves the patient; but where the case is of any standing calomel is generally required, and then he directs the following: R Calomel, gr. iv; bicarb. potash, gr. iv; white sugar, gr. ij. M. Divide into four parts and give one morning and evening.

ART. 277.—*On Retropharyngeal Abscess in Infants.*

By Professor ABERLIN, of Stockholm.

(*Schmid's Jahrbücher*, No. 5, 1872.)

According to Professor Aberlin retropharyngeal abscess occurs not unfrequently in very early childhood. This affection, however, is then often overlooked or mistaken, a fact which may be explained by the difficulty of diagnosis and by the slight mention of this subject in works on diseases of children. In old handbooks it is not described at all and in recent works but briefly, and, as it seems to Professor Aberlin, without any reliance on personal observation. Even in journals only a few cases have been recorded, and yet this kind of abscess is to be met with rather frequently in infancy, according to the author as a result of a delicate condition of the tissues, and requires the more care and attention as upon early diagnosis and treatment a favorable termination of the affection mainly depends.

Of the two varieties of retropharyngeal abscess—viz., that resulting from inflammation and necrosis of the spinal column and its ligamentous and cartilaginous apparatus, and that consequent on inflammation of the connective tissue between the posterior wall of the pharynx and the cervical vertebræ—it is the latter that is frequently met with in infants, in whom it presents very varying forms with regard to size and extent. It may be limited to a small portion of the posterior wall of the pharynx, or it may extend downwards along the œsophagus and round both sides of this tube. It often exists externally, and not unfrequently occurs in connection with adenitis and acute exanthemic fevers, especially scarlatina. Whether this form attacks by preference scrofulous children, as some suppose, Professor Aberlin cannot determine. In the first months of life it is generally difficult to decide whether a child is scrofulous or not, as this morbid condition does not usually present its first manifestations until a later period.

The symptoms vary much, and principally in their relation and intensity; they either come on slowly and insidiously and take a prolonged course, or they are violent from the beginning and proceed rapidly, with fever, wakefulness, and sometimes a peculiar cough not unlike whooping-cough. The symptoms which are more indicative of the affection are difficulty in swallowing, dyspnoea, alteration in the voice, a hissing or whistling sound during inspiration, inability to move the head without pain; these vary in degree in different cases, and sometimes are present and very intense from the earliest stages of the affection, and at other times come on gradually. Since one or other of these symptoms is generally predominant it is difficult, if not quite impossible, to sketch a plan of the disease which could be applied to all cases. It may be laid down as a rule, however, that each symptom increases in degree as the abscess enlarges and extends. In the most advanced stage deglutition is quite impossible; the change in the voice has preceded to complete aphonia and the difficulty in breathing to threatening suffocation. Of course many modifications are met with according to the situation of the abscess. It is worthy of remark that the symptoms do not always increase uninterruptedly in intensity, but often occur in well-marked remissions. The attacks of choking have precisely similar characters to those of whooping-cough. Convulsions have been frequently observed in cases of retropharyngeal abscess in young children, but these are to be regarded as only casual complications.

In every case where difficulty in deglutition and dyspnoea are simultaneously present, the pharynx must be examined with the greatest precision, and this examination be repeated if the first attempt has gained no result. As a simple inspection is generally defective, Professor Aberlin recommends an examina-

tion with the finger, which can be introduced without great difficulty and may feel any swelling that may exist on the posterior wall of the pharynx. Protrusion of the abscess between the tonsils, a condition described in many recorded cases, has never been observed by Professor Aberlin, who holds that this rarely occurs. Redness of the pharynx is present in acute cases and absent in insidious cases. A diagnosis difficult in itself is naturally rendered more difficult the greater difficulties there are opposed to the examination. As an illustration of the difficulties to be overcome in the diagnosis and examination, Professor Aberlin alludes to a case reported by M. Giraldès in which diagnosis from inspection was impossible, and from exploration with the finger extremely difficult.

The affection cannot be diagnosed until after the full development of the abscess and on repeated examination. According to Professor Aberlin retro-pharyngeal abscess in infants is not unfrequently confounded with croup, catarrhal laryngitis, œdema of the glottis, and other affections. The case, however, is generally found out after bursting of the abscess or on a post-mortem examination.

When the diagnosis has been made early and a suitable treatment has been applied the prognosis is tolerably favorable. On the other hand, if the affection has been neglected and the abscess does not burst spontaneously death is unavoidable. Even with spontaneous opening of the abscess it may happen that its contents are discharged into the air-passages so as to cause death by suffocation. Secondary pulmonary lesions may exist with the abscess, and on their part give rise to difficulty in the diagnosis and also to an unfavorable prognosis.

Opening the abscess, simple as the proceeding may seem to be, is not always free from difficulty, and may even be attended with danger. Beyond the difficulty in reaching the abscess there is the danger of suffocation from the downward flow of its contents. Professor Aberlin once saw death occur instantaneously from this cause. This unhappy result may the more readily occur since, on the opening of the abscess and the rapid diminution of the swelling, the respiration suddenly becomes easier and a deep inspiration at once takes place spontaneously. By using a trocar and by rapidly bending the head forwards this accident may be prevented.

ART. 278—Injury to Abdomen—Typhlitis—Perforation of The Vermiform Appendix—Peritonitis—Death.

Under the care of Mr. HOWARD MARSH, at the Hospital for Sick Children.

(*British Medical Journal*, November 9.)

The following report and remarks are by Mr. R. W. Parker, House Surgeon:—

A. E. H., a boy aged seven, was brought to the hospital in August last, with the following history: While walking in the street, with his head turned in the wrong direction, he had run against some iron railings and struck his abdomen. He went home, but did not say anything about it, as the accident appeared very trivial. He was sick several times during the night, and, on the following day complained of pain and tenderness "in his stomach." On being questioned by his mother he told her about his accident. Next morning, being the second since the injury, he was brought to the hospital and saw Mr. Marsh. At this time he complained of pain and tenderness in the abdomen, for which poultices were ordered and rest in bed enjoined. Until the following Saturday, on which day he was again brought to the hospital, he kept his bed, felt and looked ill, his diet being milk and beef tea; his bowels had not acted since the previous Sunday; the pain in the abdomen was worse; his bladder was full, and he could not empty it. Chloroform was administered, in order that a more careful examination might be made than was possible without it, on account of

the pain. The urine was drawn off, and, on manipulation, there was now felt an induration, apparently in the abdominal parietes in the right iliac region, but no fluctuation; the abdomen was much distended. He was sick after the chloroform, and looked ill; the vomiting continued all Saturday and Sunday, until 2 P.M., when he died.

Post-mortem examination thirty-six hours after death.—On opening the abdomen a quantity of fetid gas escaped. The intestines were distended with air; they were glued together with recent peritonitic lymph. A small round mass of hardened feces was found in the right iliac fossa, near the vermiform appendix, which, on examination, was found to be perforated; the appendix was glued to the colon by recent lymph; the intestines were otherwise healthy.

REMARKS.—The case is interesting in the following points:—

1. The illness was thought to result from *injury* to the abdomen; and application was, therefore, made to a surgeon, who considered it an incipient abscess in too early a stage for any active interference, and typhlitis was scarcely suspected.

2. The *vomiting*, after the chloroform—by no means an unusual occurrence—at first excited no alarm, and ice and the usual remedies were ordered, but without any relief.

3. The *accident*, which was a very slight one, and which, under other circumstances, would have been harmless, was in this case sufficient to set up acute peritonitis, where it had probably existed for some time previously in a sub-acute and localized form.

4. How far the *manipulation*, which was nevertheless gently and carefully performed, may have helped the ulcerative process to perforate the appendix is a subject for serious speculation.

5. Whether the *vomiting*, which quickly and persistently followed on the chloroform, brought about the fatal event earlier than would otherwise have been the case is another point, which adds a certain medico-legal interest to a very instructive clinical study.

ART. 279.—*Treatment of Cancrum Oris.*

By C. S. KITTREDGE, M.D., of Oakland, late Assistant Physician at the Nursery and Child's Hospital, Randall's Island, N. Y.

(*The Western Lancet and New York Medical Record*, Oct. 1.)

Dr. Kittredge publishes nineteen fatal cases of this formidable affection—which is a malignant form of ulcerative stomatitis—induced in children under five years of age predisposed to tuberculosis. The duration of this disease is from six to sixteen days, running a most rapid course when commencing in the cheek or throat, but somewhat slower in its progress when commencing in the gums. The disease demands prompt and energetic attention. He commences with the chlorate of potassa, in from five to ten-grain doses every four to six hours, and continues it during the whole progress of the disease. The mouth must be frequently washed with a weak solution of liquor sodæ chlorinatæ, ℥j to water ℥xij, and after mortification has commenced, a pledget of soft linen, wetted in this solution, should be constantly kept between the sore and the adjacent tissue. Tonics and stimulants should be freely given on account of the great prostration, and iron with bark or quinine in as heavy doses as the child will bear, and strong beef-tea in place of solid food. Out of sixty-seven cases of stomatitis treated during the year, there were nineteen deaths, or 28 per cent. Of the fatal cases twelve were males and seven females. The average age was two years and eleven months. In sixteen cases the primary disease was rubeola. Fourteen autopsies were made, and in every case tubercles were found in great abundance. In thirteen cases the tubercles were in the lungs, and in the other the mesentery was filled with miliary tubercles. He remarks in conclusion that cancrum oris has a close connection with tuberculosis, and believes that it can exist only in children of a tuberculous diathesis.

ART. 280.—*On the Etiology of Tubercular Meningitis.*

By Dr. I. BIERBAUM.

(Journal für Kinderkrankheiten, lvii.; Schmidt's Jahrbücher, No. 6, 1872.)

1. There is a hereditary predisposition in tubercular meningitis. It seldom occurs that one case *only* occurs in one and the same family. As a rule several children in the family are thus affected. A predisposition, however, may be acquired.

2. This predisposition consists in the scrofulo-tubercular diathesis. It makes no important difference whether this diathesis can be recognized by quite unequivocal signs, or manifests itself merely as constitutional debility, which is closely allied to scrofula or tuberculosis and leads to this affection.

3. It is by no means a necessary condition that the father or mother should have been in early life affected with this cerebral disease.

4. The direct transmission of the scrofulo-tubercular diathesis from parents to children has a far greater etiological significance than the existence of this predisposition in collateral relations.

5. Tubercular meningitis is met with only during infancy, and occurs more frequently during the first than during the second period of dentition.

6. Sex has no special influence on the frequency of the affection.

7. Whether cold or warm seasons are more favorable to the development of the affection has not yet been determined.

8. Climatic, social, and antihygienic conditions do not favor the development of this affection, except so far as they influence the scrofulo-tubercular diathesis.

9. This cerebral affection never occurs epidemically.

10. The exanthemata are of great importance as indirect causes of the affection. Measles especially has great influence.

11. Inflammatory affections of the respiratory organs occasion this affection of the brain more frequently than hooping-cough.

12. The abdomen is the productive source of several conditions favorable to the development of tubercular meningitis.

ART. 281.—*On the Treatment of Itch in Children.*

By Dr. ALOIS MONTI, of Vienna.

(Jahrbuch für Kinderheilkunde, iv. 2; Schmidt's Jahrbücher, No. 6, 1872.)

Balsam of Copaiba.—The author having found out from experiments that this agent kills the itch parasite, applied it in practice amongst children. After previous washings the pure balsam is rubbed in two or three times daily. This inunction produces extreme redness of the delicate skin of children, which, however, disappears in the course of half-an-hour. A new eruption is not produced through the use of the balsam. The itching usually ceases after the first application, the efflorescence of the skin remaining until the third or fourth application, after which it disappears. In all cases the cure was complete and relapses did not occur. The duration of the treatment varied between two and twelve days. Dr. Monti never observed any injurious action of the balsam on the urinary and digestive organs. The form of the skin disease which was the most rapidly cured was scabies nodosa without eczema; on eczema balsam of copaiba has no influence whatever. The most obstinate form is scabies pustulicis, for the treatment of which, according to Dr. Monti, corrosive sublimate is very suitable. Copaiba balsam is cheaper than balsam of Peru, and has a more agreeable smell; it does not soil the linen, and for sucking children is to be preferred to sulphur.

Carbolic Acid.—Dr. Monti has used this agent in a solution (3.75 grammes of carbolic acid to a pint of water) and in a salve (3.75 grammes to 120 grammes of simple ointment). After preliminary ablation of the patient, the carbolic

acid is applied in the form of a wash, or is rubbed in, or, again, in cases of pustular scabies, as a continuous dressing. This agent causes slight redness and burning pain on the skin, which soon pass off. In abraded and infiltrated skin intense redness is produced, but no inflammation. The eczematous rash seems to disappear speedily after the application of carbolic acid. In all the cases thus treated complete recovery was attained, generally in from two to four days and after from six to nine applications. When eczema had been present the treatment lasted longer, generally for about twelve days. Dr. Monti never observed any indications of the poisonous action of carbolic acid. He thinks that this plan of treatment is very much to be recommended for scabies in children; the carbolic acid not only acts favorably upon an existing eczematous eruption, but never excites a fresh eruption of this kind. This agent is very convenient, and less costly than Peruvian balsam or balsam of copaiba, and has the advantage over styrax in disinfecting and not soiling the linen.

ART. 282.—*On Purulent Ophthalmia of Infants.*

By HAYNES WALTON, F.R.C.S., Surgeon to St. Mary's Hospital, and Surgeon in charge of the Ophthalmic Department of the same.

(*Medical Times and Gazette*, November 9.)

This is essentially the same disease as purulent ophthalmia in the adult, merely modified by the undeveloped tissues of the babe and the activity of the growing processes—the infant organism—and generally more severe.

Symptoms.—About three or four days after birth the eyelids have a tendency to stick together; their edges are a little swollen and redder than natural; in the daytime the light is distressing and the eyes are kept closed. After this a little muco-purulent secretion is found, then follows palpebral inflammation with the formation of pus. The tumefaction is greater in proportion than in the adult, so that the palpebræ stand out like round tumors, and the upper is often pushed down over the under one. Such swelling necessarily presses them tightly together. Under this mechanical state, and as the discharge is not very copious, it is scarcely noticeable, and its character is not readily discerned. Its color varies, being sometimes yellowish, sometimes greenish, and sometimes red from the admixture of blood. In a jaundiced child it is very decidedly yellow.

It is seldom that the disease at once assumes intensity. In consequence of this it is often erroneously supposed to have a later origin—that of two or three weeks after birth. The overlooking of it at an early period is unfortunately frequent in all classes of society. The child cannot complain and express its sensations. The concomitant tegumentary swelling conceals the conjunctiva, and the effects of the inflammation on it. Even when the early inflammatory symptoms are noticed, too commonly they are attributed to a cold in the eye, and expected soon to pass away. The consequence is that irreparable damage occurs before treatment is applied.

The conjunctiva swells more than in the adult, and there is further dissimilarity in its being very much raised and actually loosened in all its regions by effusion of serum in the sub-conjunctival areolar tissue rather than liquor sanguinis. In consequence of this a prolapse of it is always impending, and occurs at any attempt to examine the eye, whereby the under or both eyelids may be everted. Soon after this the retrotarsal fold may prolapse of itself, like a circular red roll, and evert the tarsal margins. The action of the orbicularis muscle increases the eversion.

In from eight to twelve days from the early symptoms, when the ocular chemosis is greatest, the cornea gets hazy in spots or generally, and red at its edge, then semi-opaque and infiltrated with pus to a small extent, or through the entire breadth, followed by penetrating ulceration; or, without an abscess forming, it may slough in part or entirely; or sloughing through a portion of the laminæ may be succeeded by ulceration and penetration, or circular ulcers

may form and perforate it. Just preceding either of these processes the eyelids swell yet more, especially the upper one, which is also very red and shining, and the secretions are more purulent and more copious. The child is restless through pain. There is considerable photophobia, the tongue is white, and the body wasted.

The ulceration, or the slough, or the abscess, is usually central, unless there be a multiple of the one or the other.

The lens is more prone to escape through the corneal breach in infants than in adults. With much loss of the cornea its expulsion is the rule.

As chemosis does not become hard and adhere to the cornea, there is, so far as Mr. Walton has observed, an absence of the grooving marginal ulcer.

With more penetration of the cornea, or considerable or entire destruction of it, the acute symptoms decline, the bright red swollen upper eyelid becomes flaccid and dark red, and the discharge lessens and is less purulent. With the first condition (penetration) the iris prolapses, and may effectually plug up the aperture, or closing it imperfectly, a staphyloma is formed. With the second, if the lens and the whole or a part of the vitreous humor have escaped, the eyeball shrinks to a mere button. If the humor be retained, whether the lens be lost or not, it shrinks with a flattened front, partly covered by shrunken cornea and partly by transparent cicatrix, or entirely by the latter.

Relapses do not occur, and the conjunctiva does not become affected by the process of proliferation ending in granulation, as in the adult.

Milder cases are met with in which the inflammatory symptoms are very much less, but the difference as to the sthenic and asthenic action is never so marked as in manhood.

Course.—The disease generally begins in one eye, but not infrequently in both. When only one is primarily affected, the other is sure to be inoculated from it unless precaution be observed.

When very sthenic, it is never subdued under ten or fourteen days, and weeks elapse before the conjunctiva is again healthy.

The eyeball is more likely to be involved from the extension of the inflammation than in the adult.

When the cornea becomes turbid at several points or throughout, the danger has reached its height.

Diagnosis.—Catarrhal ophthalmia is often mistaken for purulent ophthalmia. This accounts for the cures which we hear of from slight agency, such as excluding the light, applying a small blister to the temple, and so forth. It accounts also for reported epidemics of purulent ophthalmia among infants in this or that place, and said to be mild, and not inflicting damage to the eyes.

Hereditary syphilitic inflammation of the eyeball, with the symptoms of hazy cornea, and hyperæmia of the conjunctiva and of the edges of the eyelids, may be mistaken for purulent ophthalmia. The absence of any purulent discharge ought to be enough to prevent any blunder being made.

When the disease is developed, the merest inspection of the conjunctiva will cause the purulent discharge to flow out, the appearance of which always proves the existence of purulent conjunctivitis; and its stage can generally be told from the condition of the eyelids.

But more information is necessary than a mere knowledge of the existence of the disease. We ought to ascertain if any and what damage has been done. A systematic inspection must be adopted. This can only be done effectually by retracting the eyelids with two retractors. If these instruments be not at hand a pair may be extemporized out of bits of wire or hair-pins. If the conjunctiva be much swollen it is useless to attempt the examination with the fingers, because the cornea cannot be sufficiently exposed. An eye which might have been saved may be destroyed by the bursting of a damaged cornea from rough handling; whereby the lens and some of the vitreous humor escape.

Causes.—Mr. Walton attributes the origin to vaginal discharge of the mother, which has been transmitted to the eyes of the child during parturition, such discharge being for the most part leucorrhœal, and sometimes gonorrhœal.

Surgeons speak of cases occurring in the children of perfectly healthy mothers—at least, of such as deny the existence of any kind of vaginal discharge whatever when they are questioned. As the investigation cannot be carried further the non-vaginal source in such instances must remain doubtful.

The same kind of agencies which produce purulent inflammation in the adult may of course excite the disease in children, but this applies rather to a later age.

It is supposed to be occasionally due to inoculation with the lochia, from the hands of the mother or those of the nurse.

That it is sometimes communicated from infant to infant, in nurseries and lying-in institutions, is certain. It is equally clear that it arises in such places where puerperal diseases prevail.

Whatever be the reputed origin, the disease is most frequent in weakly children, who are exposed to the debilitating causes of bad air, cold, insufficient clothing, insufficient food—in fact among the poor. But Mr. Walton asks, Are not the mothers of these children very prone to leucorrhœa? Again, it is more common in premature infants.

Prognosis.—The effects are more severe when there has been gonorrhœal inoculation. Then the destructive end quickly follows the first symptoms. The eyelids and the conjunctiva always swell and inflame more, the discharge is thicker and more copious, and the child suffers much pain.

Ordinarily it is more severe in damp and cold than in dry and warm weather, and among the children of the poor and necessitous than among those of the higher classes. It is the cause of blindness in the greater portion of the blind poor.

The longer the disease has been allowed to remain untreated, the more tedious will it be to cure.

While the cornea is yet clear the eye may be saved from any damage. If it be hazy, some destruction of it will probably follow.

If there be superficial ulceration without onyx, probably only a slight speck of opacity may remain, which would be of no consequence provided that it is not over the pupil. If the ulceration be deep there will be a large opacity. Haziness in association with ulceration may be dense enough to hide the iris, and yet clear sufficiently to enable the eye to be used. When slight it may entirely pass away, except just around the ulcer or the spot of penetration, where it is always densest, and always remains in some degree.

If there be considerable onyx in all probability the eye will be destroyed. The same may be said of sloughing.

Small partial, central, capsular cataract, like a white dot, sometimes very minute, and very rarely half as large as the pupil, may occur. Its nature has been explained under the head of "capsular cataract." Mr. Walton dissociates it from any connection with ulceration of the cornea. The opacity proceeding from an ulcer and it seldom corresponds in position. It remains indelible; it interferes with the function of sight according to its size, apparently more by disarranging the adjustment than in any other way. The acuteness of sight is very often impaired in consequence of injury to the choroidal and retinal coats. This may occur when the cornea has not been much damaged.

Nystagmus and strabismus are sometimes sequelæ.

Ectropion and partial ptosis may occur, as in the adult.

Treatment.—The principles are precisely the same as those for the adult disease. The athenic action must be reduced. A leech to the upper eyelid, or a leech to both lids, will produce sufficient bleeding. Children are quickly affected by the loss of blood, and the leech-bites should not be allowed to go on oozing. The application of cold is next called for, and its effects must be watched, so that there may be no undue chilling of the surface. The astringent should be resorted to rather earlier than in the adult, because it irritates less, and a quicker result is obtained. It may be applied in this way: Two persons are required for the work. The head is held. The eyelids are opened gently, and the discharge which gushes out is wiped away with a piece of soft, wet

rag. The lower and then the upper lids are next everted and wiped with another piece of wet rag. The lotion is then introduced with a brush.

The repetition should be as frequent as in the adult. One or other of the eyelids may become everted during this operation, especially if the child cry. It is overcome by pushing the swollen conjunctiva back and bringing the edges of the lids together. Mr. Walton has never incised the conjunctiva, nor has he resorted to any internal treatment.

Other details for general and local treatment should be the same as those given for the adult, regulated to meet the tender age of the patient. If the mother cannot supply the natural food, a wet nurse is requisite. Artificial feeding under the best system is defective, and its insufficiency is more marked when an infant is diseased.

When the inflammation of the palpebræ is but slight, and the increased temperature is not marked, the leeching should be dispensed with and the astringent at once applied.

The effect of treatment is marked. In two or three days the child begins to open its eyes, and in a week the symptoms of active inflammation have disappeared. The general health improves quickly.

Prevention.—In this destructive malady the stopping of infection is all-important. For many years Mr. Walton has pointed out that washing the eyes of the new-born babe might be a preventive measure, and insisted on the method when the presence of leucorrhœa or gonorrhœa has been detected.

APPENDIX.

ART. 1.—*Abstract of Lectures on Myology at the Royal College of Surgeons of England, June, 1872.*

By Professor HUMPHRY, F.R.S.

(*Medical Press and Circular*, June 26, July 3 and 10.)

LECTURE I.

The Professor, in commencing his first lecture, announced his object to be to review the muscular system of man from a morphological and teleological point of view. We should always seek to know how a structure is formed and why it is formed. What are the impulses to development we know not, and we have no right to dogmatize upon them. Whenever movement is required, muscular fibres are formed adequate to the purpose. But that need for movement is not a stimulus to development. The muscles of respiration are all developed of the exact size and number and position necessary for effecting the required movements of the chest before those movements begin. Moreover, each fibre is formed of length proportioned to the range of required action. The range of contraction is about a third of its length, and the extent to which any given point can be moved measures about a third of the length of the muscular fibres which effect the movement. Although parts of the individual fibres only act successively, this does not seem to be the case with the separate fibres, which are banded together in synchronous action by nervous agents. Hence the fibres converging on a given tendon are usually of equal length, allowance being made for the position of the muscle. All the fibres acting through the tendo-Achillis are about two and a half inches in length, and the range of movement of the tendon is rather less than one inch. A variety of arrangements are provided for economizing muscular action, that the effect of a given muscular action may be as great as possible. This may be taken in connection with the fact that a given muscular fibre contracts in only part of its length at a given time, and if the uncontracting part is not able to resist the same tension as the contracting part—if, for instance, the fibre is a long one and the amount of contraction considerable—rupture may ensue. Hence we find various provisions for shortening the necessary range of action. Muscles are usually inserted near the centre of motion, the power thus sacrificed being more than compensated for by the velocity gained. This is well illustrated by the direction of the fibres of the intercostal muscle, and this is also why we so often find fibres of muscles crossing from their origin to their destination, as, for instance, those of the pectoralis major, the clavicular portion of which is inserted lowest into the humerus, the pectoral part highest, the influence of which in different positions of the humerus is obvious on consideration. Another way in which a great amount of movement is obtained from a certain amount of contraction consists in the passage of the tendons through certain bands or ligaments, before reaching their destination. This is well seen in the biceps flexor cruris of the bird. In a muscle passing in a straight line between the two parts much greater contraction would be necessary. By the medium of tendons a greater number of fibres can be brought to bear upon a given point, and this is rendered practicable by the diminution of the range of movement. Muscles inserted near joints are nearly always contracted to tendons in passing over them; hence the enlargements of the ends of the bones requisite for security can be obtained without undue enlargement of the size of the limbs, and the muscular fibres themselves can be packed into a convenient position, as in the calf of a man. It is a general rule that the muscular fibres are packed towards the trunk. This is well seen in birds.

In considering the disposition of the muscles of the trunk it is necessary to remember that the osseo-muscular system consists of a series of alternating membranous or skeletal and muscular planes. These in the fish constitute the great lateral muscle, but they undergo great variety of disposition in different animals. The skeletal planes may chondrify or ossify, and be converted into various parts of the trunk, vertebræ, ribs, etc., or they may be obliterated by increased development of muscular fibres. Two lateral lines divide the dorsal muscle of the fish into two parts, corresponding respectively with the dorsal and ventral muscles of our own trunks. Dr. Humphry has tried to show that certain prolongations of the angle of the inter-muscular septa in the fish, which are not unfrequently tendinous, correspond to the tendons of our own dorsal muscles. These muscles in ourselves are interrupted below by the pelvis, and above by the skull, but in tailed animals they pass backwards into the tail; and in the *Lepidosiren* they are not interrupted by the skull, but pass onwards, and are confluent with the temporal and masticatory muscles, showing that these are really prolongations of the dorsal muscles, and giving an argument in favor of the view that these lateral fossæ of the skull really correspond with, and are a continuation of, the lateral grooves between the spinous and transverse processes of the back.

Some better classification of the muscles of the back is much to be desired, for the sake both of the student and of the teacher; but the fact that they are really one imperfectly segmented dorsal muscle renders any precise division impossible. Still they may be classed in three strata: Firstly, a superficial stratum, composed of muscular fibres passing obliquely from the spinous to the transverse processes; secondly, a series in which the muscular fibres pass vertically from one point to another nearly corresponding point in the vertebral column; and thirdly, a deeper series, in which the muscular fibres again pass transversely and obliquely, the direction of the obliquity being opposite to those of the superficial set. In the second stratum may be placed the *interspinales* (*lumborum, dorsi, cervicis, capitis*), and *inter-transversales* (*dorsi, etc.*). The large group of the *rector spinæ* is sufficiently characterized by the word *spinales* (*dorsi, cervicis, etc.*); *transversalis* should be substituted for *longissimus dorsi*, and instead of *sacro-lumbalis*, the German *ilio-lumbalis* (*dorsi* and *cervicis*) may be employed. Some of these are not well distinguished from the deeper oblique muscles described as passing from the transverse to the spinous processes, and therefore called *transverso-spinales* (*dorsi, cervicis, and capitis*). The superficial ones take the opposite direction, and may be called *spino-transversalis* (*obliquus inf., splenius, colli, and capitis*).

The ventral system of muscles, in front of the lateral line, presents much greater deviations from the simple type than do the dorsal. Still the transverse septal remnants of the primitive skeleton are represented by the inscriptions on the rectus abdominis, the sterno-hyoid, and occasionally on the omohyoid, and the ossification of certain septa constitutes the ribs, the limb girdles, and the hyoid bone. The ventral muscles may, however, be divided into three strata, corresponding to the strata of the back muscles. First, a superficial stratum corresponding to the external oblique, and continued upwards as the pectoral, *latissimus dorsi*, *trapezius*, and *sterno-mastoid*, and downwards as *sartorius*, *tensor vaginæ femoris*, *gracilis*, and *gluteus*. There is, secondly, a middle stratum corresponding with the internal oblique, and continued forward as external inter-costals, and the muscles passing from the ribs to the deeper parts of the scapula, and forwards from the scapula, to the head and from the ribs to the clavicle, and downwards, interrupted by the pelvis, but still traceable as the *erector penis*, *accelerator urinæ*, *coccygens*, and internal sphincter. Thirdly, there is the deeper stratum corresponding with the *transversalis* muscle, internal intercostals, and part of the diaphragm. In the pelvis it is interrupted, but appears again converging on the bowels, as the *levator ani*. This layer in the cryptobranch forms one continuous sheet of muscle, which covers the whole of the under surface of the vertebræ, the inner surface of the abdomen, lines the thorax, and is continued forward to the head. In mammals it remains on the anterior surface of the lumbar vertebræ, constitutes the *crura* of the diaphragm, the internal intercostals, the *longus colli*,

and the *rectus capitis anticus major*. In the middle part of the abdomen the fibres of the great lateral muscles are disposed longitudinally, and constitute the fore part of the abdomen, the *rectus* and in the back part the *quadratus lumborum* and *psoas*. The tendinous intersections in the *rectus* are not to be regarded altogether as representatives of the ribs, but rather of those skeletal structures from which ribs are liable to be formed. They have often been subjects of discussion, and the object gained by them is apparently the same as is served by the tendinous intersections in the muscle of the fish—to effect a shortening of the muscular fibres, and so to prevent too great a strain on their uncontracted portions. Still it is not easy to explain why there should be two above the umbilicus and one or none below.

The intercostal muscles in the thorax have somewhat the characters of the ordinary lateral muscle of the fish, but are modified in order to subserve the purposes of respiration. The problem of their mode of action cannot yet be regarded as completely solved. We have to bear in mind that each rib is not a plane, but an arc of a circle, rather larger than the one above, and each thus yields a better leverage than that above it. We may regard the several intercostal fibres as passing from the upper rib downwards, interrupted, it is true, by the several ribs. Their action on the ribs is greater as the circle described by the ribs is greater, and this attains its maximum about the eighth or ninth rib; there we have the greatest transverse diameter of the chest and the greatest movement of the lungs. It is here also that there is a counter-acting influence at work in the diaphragm tending to draw towards the ribs. The difficult question still remains—why the external intercostals extend a certain distance and then cease, and why the internal extend a certain distance toward the posterior part and then cease?

For further elucidation of these views the Professor referred to papers recently published by him in the *Journal of Anatomy and Physiology*, and to his "Observations on Myology."

LECTURE II.

The Professor began by observing that the upper and lower limbs are the produce of similar morphological impulses acting upon serially homological elements; yet that the one limb is not a modification of the other, nor are we certain that both are modifications of a simple common form, though there may be much probability in such a view. After reminding his audience of the statement made in the first lecture that the several muscles of the trunk are derivatives from the same elements as the lateral muscles of the fish, he proceeded to show that the muscles of the limbs are also to a considerable extent derivatives from the lateral muscles. The limb-girdles are ossifications in the transverse septa of the ventral part of that muscle; and as the limbs grow out from the girdles they carry before them ventro-appendicular expansions which become developed into skin, cellular tissue, muscle, etc. The muscular stratum envelops both limbs to a variable extent, and at the base of each limb spreads out in a funnel-like manner upon the trunk. It is divisible into a superficial and a deeper layer. The superficial layer in the upper limb is in three sectors—the *pectoralis*, the *latissimus dorsi*, and the *trapezius* and *deltoid*. These converge upon the humerus, and each in its course is connected with the girdle. The connection of the *trapezius* and *deltoid* is effected by the spine of the scapula and the clavicle growing into the septum between these two muscles. This septum is the serial continuation of the septa of the lateral muscle; and the clavicle corresponds serially with the costal and epicostal bones which form in the abdominal parts of those septa in some animals. The connection of the pectoral sector with the girdle is formed by the *pectoralis minor*, and that of the *latissimus dorsi* by a scapular attachment of that muscle. Parts segmented from the *trapezius* form the *rhomboids*. The superficial ventro-appendicular sheet in the lower limb is still more intimately connected with the pelvis than that in the upper limb is with the shoulder-girdle, and it extends farther from the limb. It is divided into three sectors—the *gracilis*, corresponding with the *pectoralis*, the *gluteus*, corresponding

with the *latissimus dorsi*, and the *tensor vaginæ femoris* and *sartorius*, corresponding with the scapular part of the *deltoid*. The external oblique fibres passing to the ilium correspond with the *trapezius*. The crural arch corresponds with the brachial arch; and an ossification in Poupart's ligament would correspond with the clavicle. The aponeurosis of the external oblique above Poupart's ligament, corresponds with the trapezius and the cleido-mastoid above the clavicle; and the femoral fascia, below Poupart's ligament, corresponds with the parts of the *deltoid* and of the pectoral below the clavicle.

With regard to the deep ventro-appendicular stratum, it forms a sheath covering the shoulder and hip-joints respectively, and is in each instance divided into four sectors. The dorsal sector forms the *infra-spinatus* and the *teres minor* in the upper limb, and the *gluteus medius* and *minimus* in the lower. The palmar sector is the *coraco-brachialis* and the *subscapularis*, answering to the *adductors* and the *obturators* in the lower limb. The anterior sector is the *iliacus* in the upper limb, and the *supra-spinatus* in the lower; and the posterior sector is the *teres major* in the upper limb, and the *pyriformis* in the lower. In making comparison of the muscles in the upper and in the lower limbs, and in the limbs of different animals, a very close correspondence must not be sought: for the developmental processes in each are freely modified to suit the respective requirements. Thus the attachments of corresponding muscles are often found to vary, the points of insertion varying as much as those of origin; so that the former are no surer guides to homological comparison than the latter.

Lastly, the Professor spoke of the deep muscles passing from the trunk to the girdles. These are the costo-clavicular or *subclavius*, the costo-scapular *serratus*, which is continued forward as the *levator scapulae*, and the *omohyoid*, which is a representative of a much more extensive connection of the hyoidean muscles with the scapula in fish and urodelans. In the hind limb the *levator scapulae* is represented by the *quadratus lumborum*, the *omohyoid* by some fibres of the *internal oblique*, and the *subclavius* and *serratus* by the *ischio-coccygeus* and the *ilio-caudalis*. The chief nerves and vessels to the limb pass between the two muscles last mentioned in tailed animals, as those of the upper limb pass between the costo-clavicular, and the costo-coracoid on the one side, and the costo-scapular on the other.

LECTURE III.

In his third and last lecture Professor Humphry continued the discussion of the muscles of the limbs. The *coraco-brachialis*, *biceps*, and *brachialis anticus* he showed to form one series corresponding with the *adductor*, the *semimembranosus* and *semitendinosus*, and the short portion of the *biceps cruris*; while the long portion of the last muscle is a derivative from the extensor mass—the *gluteo-rectus* series—which, inclining to the plantar aspect, has acquired a flexor action. The tendinous intersection in the *semitendinosus* he regarded as corresponding with a similar intersection in the *Cryptobranch* found at the junction of the caudal muscle with the flexors of the leg; and its persistence in man is to be associated with the great length of the fibres of the muscle, owing to the distance of its insertion in the leg from the centre of motion at the knee, and the consequent great range of its action. The fibres of this muscle in a woman of ordinary stature measured ten inches, while those of the *semimembranosus* measured only three inches, and those of the *biceps* six, the length in each instance being proportionate to the distance of the insertion from the centre of motion. The *quadriceps cruris* is evidently the serial homologue of the *triceps brachii*; and in the bat, where the rotation of the hind limb is the reverse of that usual in mammals, the *rectus cruris* arises from behind the acetabulum, just as the scapular portion of the *triceps* usually arises from behind the glenoid cup.

The several muscles on the flexor and extensor aspects of the middle and distal parts of the limbs were described as derivatives or segmentations from pronato-flexor and supinato-extensor masses, which are found in a simple form in tailed batrachians, but are more complicated in man. The divisions of these were described at some length. The supination and pronation in the upper

limb and the throwing out of the heel bone in the lower limb are the features which necessitate the chief differences in the disposition of the muscles in the two limbs. A large proportion of the fibres on the plantar aspect in the hind limb are concentrated upon the heel, and subserve to the flexion of the ankle; whereas the corresponding fibres in the fore limb minister to pronation of the forearm and flexion of the digits, as well as to flexion of the wrist. Hence the representatives of the *flexores carpi* and the *flexor sublimis digitorum*, as well as of part of the *pronator teres*, are to be found in the outer head of the *gastrocnemius* and the *soleus*; the *plantaris*, which in many animals is continuous with the *flexor brevis digitorum pedis*, being the representative more particularly of the *fl. subl. dig. manus*. The ulnar origins of the *pronator teres* and the *accessorius pedis* are remnants of the primitive pronato-flexor masses which have attachments to all the bones of the limbs. The former is present in the chimpanzee, but is not again met with till one reaches the reptiles, where it constitutes a *pronator intermedius*, connecting the *pronator teres* with the *pronator quadratus*. Its use is to carry on pronation during the flexed condition of the elbow, when the humeral fibres of the muscles lose their power. The use of the *accessorius* is in like manner to maintain the influence of the flexor digitorum upon the toes in the flexed position of the ankle. A well-marked *accessorius*, corresponding with that in the hind limb, is found in the fore limb in some of the saurians; but there is no such muscle in the fore limb of birds or mammals.

The Professor concluded his course by some remarks on the difference between a hand and a foot, first controverting the distinction drawn by the Rev. Professor Haughton from a supposed difference between the flexor tendons in the two. He observed that we must eliminate the features of difference between the terminal parts of the hind and the fore limbs; forasmuch as these relate to the distinction between the two limbs rather than to the distinction between a hand and a foot. This, he said, had not been sufficiently attended to by those who had recently considered the question, and, therefore, they had argued it upon a wrong basis. Pointing out the features which distinguish the hand of man from the terminal part of the fore limb of ordinary mammals, he remarked that a corresponding modification either of a fore or a hind limb would constitute a hand, although the features distinguishing either from the other were still present. Judged by this rule, the terminal part of the hind limb of a gorilla or a chimpanzee, notwithstanding its projecting heel and the presence of a peroneus muscle, has as much claim to be called a hand as the terminal part of the fore limb of the same animal. There is, therefore, no sufficient anatomical reason for rejecting the word "quadrumanous" as applicable to them, or the word "bimanous" as characteristic of man.

ART. 2.—Vaso-Motor Physiology.

By HENRY HARTSHORNE, M.D.

(*Medical Press and Circular*, July 10.)

At the annual meeting of the American Medical Association, Professor Hartshorne, of Philadelphia, read a paper "On the Present Conditions of Vaso-motor Physiology." He remarked that having in 1856, in an "Essay on Arterial Circulation," published in the Transactions of the American Medical Association, advanced views somewhat at variance with the prevailing opinions, he had been led to believe that, recently, the progress of inquiry had developed facts which approached to the demonstration of the truth. Currently, it has been held, as stated in the works of Virchow, Bernard, Huxley, Marey, B. W. Richardson, and others, that the whole function of the muscularity of the smaller arteries (incorrectly confounded sometimes with the capillaries) is to limit, by a flood-gate or stopcock action, the flow of blood caused by the impulse of the heart. Against this view there have been the opinions and reasonings of John Hunter, Sir Charles Bell, and a few others of the older writers, and an overwhelming strong presumption derived from general physiological

analogy. Dr. Hartshorne wished to point out the progress made since the publication of Professor Lister's observations in 1852, and more especially the recent very important contributions towards it by Legros and Onimus, (*Journal de l'Anatomie et de la Physiologie*, 1868-70). It was necessary, in order to perceive the bearing of the facts thus brought forward, to review briefly the whole ground of the inquiry. Attention was therefore called to the following points:—

1. Bowman, Marey, and others have abundantly demonstrated that the universal law of muscular fibre, pre-eminently obvious in the smooth muscle of organic life, is alternating, rhythmic, or peristaltic contraction. Presumably, therefore, we should find this true of the middle coat of the smaller arteries, and the burden of proof rests with those who assert the contrary. And, if it be alternating, we have every reason to believe that it is *propulsive*, not restrictive in its action.

2. Certain facts in comparative physiology are only to be thus explained; as, the completeness of the round of circulation in fishes with only a respiratory heart; the arterial dilatations taking the place of the heart in *amphioxus*; the distribution of arterialized blood from the reservoir-like arterial networks of the whale; the ordinary circulation in most articulates which have no heart.

3. *Acephalous* *fœtuses* are always *acardiac*; the propulsive power of the arteries is necessary to carry on their circulation. At a certain stage of development, every human *fœtus* is likewise *acardiac*, as truly as an insect or a myriapod.

4. Erectile tissues have been recently and carefully studied anew by Legros, who has decided that the evidence shows that "it is indeed the *contractile element of the arteries* which acts to produce erection."

5. Many familiar cases of physiological *erethism* are (as pointed out in Dr. Hartshorne's essay of 1856) manifestly of an active character. Such are—the determination of the blood to the maxillæ in dentition; to the ovaries in ovulation, the uterus in gestation, the mammæ in lactation, and the testicles during the heat of male animals; the vascularity of the newly-growing antler of the deer, &c. To none of these instances can the idea of "paralytic dilatation" of the vessels, with any show of reason, be made to apply.

6. Further facts are these—in paralyzed limbs the pulse is often diminished in force and fulness; when mortification occurs, or a limb is crushed by a rail way car or torn by a gunshot wound, little or no hemorrhage occurs. Here a truly paralytic state of the arteries is produced and *the blood ceases to flow*. Under some other circumstances there is, of course, a paralytic dilatation of the vessels; as when they are exhausted by fatiguing over-contraction, or when the sympathetic nerve has been divided, as in Bernard's famous experiment with the rabbit's ear.

In decapitated criminals Robin observed that the blood does not spout from the divided carotid and vertebral vessels, but goes on through the head. Legros and Onimus found that when the large vessels are tied in animals the circulation continues; in cold-blooded vertebrate animals for a considerable time. Chauveau similarly found that firm compression of an arterial trunk, so as to obstruct its current, does not always arrest pulsation; and Legros and Onimus observed, in the retina of a man whose *arteria centralis* had been obliterated by a clot, distinct waves of pulsation still continuing in the minute vessels.

7. Dr. S. W. Gross's paper (*a*) was cited, showing the important influence of compression of an arterial trunk supplying blood to a part in a state of inflammation; the active participation of the arteries in that morbid process being thus made clear.

8. Application of these general facts to pathology becomes now important; as in reference to the nature of the condition ordinarily called fever; the spasmodic constriction of the bloodvessels in cholera, unduly restricted by Dr. George Johnson to those supplying the lungs; and the explanation of the hypertrophied state of the bloodvessels of the kidneys often found to occur in Bright's disease.

Lastly, it is concluded that we have now proof enough to show positively that *there is a true arterial systole*, following and carrying on the propulsive

movement of blood begun by the heart, instead of the mere "stopcock action" accepted still by most writers. In favor of this last there is really *nothing* except the somewhat hasty interpretation of one or two galvanic experiments by Weber more than twenty years ago and the taking for granted a conclusion from them, in contradiction to all general analogy. It may be considered that the true factors of the pulse are four: 1. The heart's impulse. 2. The *elastic* contractility, especially of the larger arteries. 3. The closure of the aortic valves. 4. The *muscular arterial systole*. As this last occurs *after* the others, and, in an artery so remote as the radial at the wrist, as late as the second sound accompanying the shutting of the aortic valves, its effect must be to *aid* in propelling the blood. It cannot be *nil*, because it empties the arteries after death. It is not a persistent rigidity or tonic contraction, or else it could be felt in some arteries in the intervals of the pulse, as it cannot. On the whole, it would appear that on this subject, with a vast deal of laborious experimentation, some want of care in reasoning has left the problem unduly long in reaching a final solution.

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MEDICAL SCIENCES:

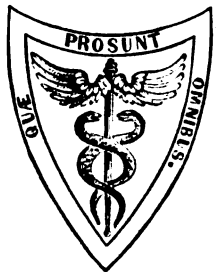
BEING
A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,
AND OF
THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

EDITED BY
WILLIAM DOMETT STONE, M.D., F R.C.S. (EXAM.)

VOL. LVII.

JANUARY—JUNE, 1873.



PHILADELPHIA:
HENRY C. LEA.
1873.

PHILADELPHIA:
COLLINS, PRINTER,
705 Jayne Street.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On the Changes of the Temperature of the Body during the course of Tuberculosis.*

By Professor LEBERT.

(*Deutsches Archiv für klinische Medicin*, Band xi., Heft 1, 1872.)

1. At the commencement of tuberculosis the temperature can be taken in the rectum as conveniently as in the axilla. In late phases of the disease, however, patients can no longer tolerate rectal investigations, especially when these are frequently repeated during the day.

2. In order for an accurate chart of the course of the temperature to be made, observations should be taken, not merely three times daily, but every two or three hours. Hourly observations disturb the patients much, and afford no especially important results.

3. The course of the temperature in tuberculosis is generally that met with in protracted inflammatory diseases, with varying degrees of fever. Specific peculiarities are wanting.

4. The individual pyrogenic disposition of each patient exercises a considerable influence on the course of the temperature, which influence is often greater than that of the fever, of the localization, of the phase of development, and of the course of the disease.

5. The fever of tuberculosis, which, on an average, is not very high, appertains to the chief factors of exhaustion and consumption, therefore both through its prolonged duration and through the great irregularity in the bodily temperature often observed in the course of twenty-four hours.

6. Age and sex, at least after and probably before puberty, exercise no remarkable and by no means a constant influence on the changes of temperature and the height of the fever.

7. The seemingly typhoid course which is observed in the early stages of chronic, and especially in acute tuberculosis, presents a course which is totally different to that of actual typhus. The rapid rise to a considerable height is wanting, the morning and evening temperatures are lower, the remissions are less marked and very irregular, and the inverse type is not unfrequently presented.

8. As the temperature does not often correspond either to external influences or to the phases and forms of the disease, it is probable that under seemingly like pathological conditions exchange-products may be developed, which vary in their pyrogenic intensity, and with which a more or less poisonous element may possibly be mixed.

9. The fever in tuberculosis affords us a physical basis for the disturbances in structural changes, although through defective chemical knowledge with regard to those changes, the problem is still unsolved.

10. The minimum morning temperature is a marked subnormal or normal one, whilst the maximum morning temperature may be highly febrile; the latter, however, occurs too seldom to have any decided general value.

11. The medium morning temperature, which has much greater importance than the minimum or maximum morning temperature, has in the earlier and later stages of the disease a tendency to be normal; in the middle stage, and at the height of the disease, it is elevated by one or one and a half degree on an average, and in exceptional cases only mounts higher. Morning fever may be absent, is generally mild, seldom high.

12. The evening temperature is generally, even at its maximum, decidedly febrile, but seldom, however, very high. These very high elevations have very little general value, and occur only now and then. The medium evening temperature is of more decided value. It is generally high, and generally attains 39° or 39.5° C.; it not unfrequently reaches 40° C., but rarely reaches and exceeds 41° C. In the latter stages of bad tuberculosis the evening temperature falls, and seldom exceeds 38.5° C.; there may, however, be occasional evening fever.

13. Fits of high fever occur more frequently in acute than in chronic tuberculosis; the medium fever form does not, however, differ much in these two affections. The alliance of the different forms and manifestations of tuberculosis is thus confirmed by the course of the temperature.

14. Tuberculosis is, generally speaking, a moderately febrile affection, and stands far below the highly febrile and acute disorders, such as pneumonia, typhus, and the acute exanthems. With regard to its temperature it resembles rather protracted exudative inflammations. The long duration and frequent fluctuations have more to do with the progressive debility of the patient than the intensity of the fever itself.

15. If with progressively destroying disease the fever diminishes, this is the result of collapse. The height of the fever is the resultant of the pyrogenic product-changes, which increase the febrile condition, and of the influence of collapse, which reduces it. This influence preponderates in the morning, but sometimes, though much less frequently, affects the evening temperature at a late stage. Then one occasionally finds considerable recurrent-like declivities from the evening to the morning temperatures.

16. An abnormally high temperature cannot in the majority of cases be explained either anatomically or chemically, it may occur with moderate extension and moderate destruction as well as with intense and rapidly destructive tuberculosis, with a rapidly progressing as well as with slow tuberculosis.

17. A curve presenting high fever in the morning and evening indicates slight remissions; an almost continuous fever superadded, excessive remissions.

18. A remarkable phenomenon presented in the last weeks and days of the disease is excessive cooling, which may even fall to below 33° , such cooling being preceded by recurrent-like falls of temperature, and followed by considerable increase. Cooling of this kind indicates a near termination, and in the course of it death may occur, although only in very exceptional cases.

19. The fever type, with regard to the remissions, as well from the morning to the evening as from the evening to the morning, even from one observation to another when taken every two or three hours, is very fluctuating and irregular. These fluctuations belong to the characteristic phenomena of the temperature conditions in tuberculosis.

20. Very slight, moderate, or high remissions occur both in acute and chronic tuberculosis, with compact, firm deposit, and with large cavities; and it is an error to attribute subcontinuous and high fever, specially to acute tuberculosis.

21. The morning temperature exercises a much more important influence than the evening temperature on the fever type and height of the remissions, although in these respects it may present various deviations.

22. As in late stages, the early morning temperature sinks more considerable.

rably than that of the evening, yet at this time steep remittent curves are obtained much earlier than on former occasions. This condition persists, although the evening temperature may have fallen, since the morning temperature is then often subnormal.

23. Very considerable fluctuations in the remissions may take place even independently of the influence of collapse; the type may at one time be ascending, at another inverse, and, again, it may be broken. Between every two successive observations there may be a difference of one degree or more, and then the ataxy preponderates in the whole curve.

24. Continuous fall of temperature from the morning to the evening, the *typus inversus*, is generally but an isolated occurrence, but, however, may so prevail that this inverted type is met with on two-thirds or even three-fourths of all the days of observation; instead of being merely restricted to the day, the fall may continue for twenty-four or even thirty-six hours. The remission fluctuations are not milder with this than with the ordinary type. The proper course of *typus inversus* is unknown to us.

25. When the course of tuberculosis has been suspended, or when the condition of the patient has been much improved, or again, when prolonged fever has finally ceased or been much reduced, the morning temperature may, for a long time, be subnormal without any bad indication being presented.

26. When, with the later and advanced development of tuberculosis, the subnorm is already a result of collapse, we may observe superadded phases of considerable drops and rises, which may give an intermittent-like appearance to a portion of the curve. In these instances the maximum of temperature may fall at some hour in the forenoon, there may even be a second evening maximum, so that this curve portion may resemble somewhat that of a duplicate quotidian intermittent.

27. Towards the end of the disease, when the fatal result is near, one observes sometimes a progressive sinking of temperature, at other times a not inconsiderable ascent. Death occurs but very exceptionally with a temperature of 34° C. or 35° C. In about two-fifths of the cases the terminal temperature is normal or subnormal; on the other hand, in three-fifths, that is to say the greater proportion, it is in almost equal proportion moderately febrile or highly febrile. Death seldom occurs when the temperature is above 40° C., or, as has been stated, below 35° C. The maximum terminal temperature observed was 42° C.

28. The concurrence of death with elevated temperature occurs more frequently in acute than in chronic tuberculosis.

On the Temperature in the Different Forms and Complications of Tuberculosis.

29. With commencing, slowly progressing, chronic disseminated pneumonia; the temperature in the early stage is normal, afterwards there is a slight elevation to 38° C., and somewhat beyond this; at first towards the evening, and afterwards more and more frequently. The morning temperature does not rise above the normal point even by a few tenths until at a much later period.

30. If the first phase of this disseminated tuberculosis be well marked and distinctly febrile, the temperature chart will present great variety. Even now fever may be absent in the morning and not manifestly present before the evening. The fever may, however, be well marked in the early stage of the disease, although moderate in the morning and evening, and then with increasing improvement in the symptoms may gradually disappear, and at last be altogether absent. In other cases there may, for a long time, be evening fever, generally moderate, at times high, there being at the same time scarcely any fever in the morning; the condition of the patient improves and the fever ceases. Fever, dependent on a complication, ceases with the removal of this, makes way for occasional evening fever, and with gradual improvement of the patient's condition passes into apyrexia.

31. Rest and treatment, such as is obtained for poor and overworked patients in an hospital, may, when tuberculosis is not far advanced, so relieve

the fever in spite of the progress of the local changes, that patients entertain a deceptive notion of recovery, which induces them to leave the hospital too early, and indirectly leads to relapse.

32. When the deposits are multiplying, but before any tendency to destruction, there may be a persistent fever, commencing with normal morning temperature and moderate evening exacerbation, and gradually leading to higher fever with occasional very high evening temperature. Multiplication of deposits seems generally to act more pyrexically than their destruction.

33. After considerable hæmoptysis in an early stage of the disease, in which there is as yet no destruction, the fever may, at first, diminish very much and then entirely cease.

34. Chronic and slowly progressing tuberculosis in the absence of any complication, and without any appreciable cause, may present even in an early stage a highly febrile curve. In favorable cases this gradually disappears, the disease stands still, and the patient is again apparently healthy.

35. There is no method of investigation which has so great importance in the diagnosis and prognosis of not very advanced tuberculosis, as careful and protracted observation of temperature.

36. If the disease run a bad but slow course without breaking down and the formation of cavities, the fever may remain moderate until almost the end, and then under the influence of collapse become mild; under these conditions, however, there is often from an early period a highly febrile course, especially in the evening, proving that high fever is by no means solely dependent on the absorption of the products of destruction.

37. The truth of this proposition is confirmed by the fact that in cases of fatal chronic broncho-pneumonia with destructive foci and cavities the fever may be slight or moderate, and may present slight, fluctuating, or high remissions. With ordinary chronic broncho-pneumonia there may be a high evening temperature and a low morning temperature even at a period when the latter is not influenced by collapse, and in other cases both morning and evening temperature may be high, notwithstanding the action of terminal collapse. This latter condition may be manifested by isolated, temporary, and very considerable coolings. Finally, in some cases, the whole curve is irregular, and in others the inverted preponderates over the ordinary type.

38. Should the tuberculous inflammatory deposits have originally rather an interstitial seat, the extra-bronchial connective tissue proliferation exceeding the broncho-alveolar processes, then breaking down, formation of cavities, and a destructive process quite similar to a purer broncho-pneumonic process would take place. The course of the temperature under these conditions would present no peculiarity, but it is to be remarked, that high fever may occur in these cases as well before breaking down and with very slight formation of cavities, even without this formation, as with a rapidly destructive course of the disease.

39. If towards the end of ordinary chronic tuberculosis a profuse deposit of granular tubercles—miliary tuberculosis—should occur, the fever in rare cases is much increased, but usually presents no change, and even when one observes high morning and evening temperatures with slight remissions, the curves and the history of the disease will often show that this character of the fever had existed before the invasion of the miliary tuberculosis. A similar high course of temperature is indeed often seen in cases in which there is not any terminal multiple formation of granulations.

40. Acute and subacute miliary tuberculosis of the lungs, which are often only the results of infection from older deposits, but which may occur also as primary affections, present just as much fluctuation in temperature as the chronic disease. The fever may be slight or moderate, and especially considerable in the evening; it is high at first and afterwards becomes more irregular, being sometimes high and at other times low. In other cases there is a prolonged high and but slightly remittent fever, which served with early observers as the type of the temperature of acute tuberculosis. Such cases, however, constitute the exception and not the rule.

41. The same occurs in acute miliary tuberculosis of the peritoneum and meninges, in which latter indeed protracted high fever is a rare phenomenon.

42. In all these acute and subacute instances the temperature may rise or fall towards the termination. There is, however, a decided tendency to a high rather than to a low terminal temperature.

43. A full view of the course of temperature in miliary tuberculosis shows that there is generally fever, sometimes moderate, sometimes high, and occasionally undergoing many changes in the progress of the disease. Near the end collapse may act in lowering both the morning and evening temperature, especially the former. In relation to these changes the remissions would also vary in intensity. The maximum or minimum temperature may be observed in the middle of the day, and there may be more or less of the inverted type. The highly pyrogenetic influence of rapidly multiplying miliary tubercles has therefore been much exaggerated.

44. If tuberculosis runs a relatively rapid course as a result of diffuse pneumonia of an upper lobe with breaking down and secondary deposits, the early phase is usually highly febrile; at a late period, however, the fever is reduced. I have not, though, taken a sufficient number of thermometrical observations in cases of this kind, to permit me to establish any rule on my results.

45. If diffuse pneumonia should occur as a temporary complication of not very advanced tuberculosis, the fever is universal for a time, whilst towards the end of the pneumonia it is much less, or quite absent.

46. In cases of putrid bronchitis, through decomposition of mucus, the temperature, according to my experience, is not modified. It may result differently when this complication leads to small gangrenous deposits about the bronchial terminations.

47. When tuberculosis arises slowly from pleurisy, the pleuritic curve, with usually a moderate morning and evening temperature, and occasionally only a high evening temperature, predominates for a long time. The pleuritic curve with an exceptional very high temperature also predominates when to previously existing slight tuberculosis is added considerable pleuritic effusion, and lasts until the fluid is absorbed and the fever ceases. A pleural effusion occurring and increasing in connection with advanced tuberculosis does not influence the temperature to any remarkable extent.

48. With pneumothorax the temperature in most cases rises rapidly by several degrees, but then, in consequence of the profound shaking of the whole organism, the shock rapidly falls again, and at a later period returns to the ordinary pleuritic or tubercular fever type. If the pneumothorax be cured, and the tuberculosis remain at a standstill, the fever gradually ceases.

49. Deep laryngeal ulcers and even extensive intestinal lesions have no very great influence on the temperature, although it might be imagined that long-continued diarrhoea would cause a reduction; on the contrary, a febrile, protracted intestinal catarrh, with dubious signs on the part of the lungs, and in the absence of a typhous process, would at an early period render highly probable the diagnosis of a tubercular affection.

50. Terminal inflammations may give rise to a remarkable elevation of temperature, but generally do not influence the temperature very much, and with regard to thermic indications may remain latent.

51. Perforative peritonitis may, when it runs a speedily fatal course, result in very considerable cooling (in one case the temperature was 34°). When death is postponed, this considerable depression is wanting.

52. Lardaceous degeneration and suppurative affections of the bones and joints, have no striking influence on the temperature course of tuberculosis.

Influence of Pregnancy and Lying-in on the Course of the Temperature in Phthisis.

53. In some instances pregnancy and lying-in have no injurious influence on the course of tuberculosis; these conditions, however, usually act prejudicially, favoring the increase and breaking down of the deposits, and not unfrequently conditioning acute terminal miliary tuberculosis.

54. In the above-mentioned rare and favorable cases in which the progress of the disease is slow, or the disease is brought to a stand-still, and the condition of the patient much improved, the curve is but slightly febrile, or the fever may altogether cease.

55. The fever may, indeed, be moderate: subnormal in the morning, at 38° or $38^{\circ}.5$ in the evening, and sometimes above this; and yet the tuberculosis may, after the lying-in, run a progressively destructive course. In other similar cases, the fever at first is moderate, and increases more and more in the course of the disease; in some other cases, again, the fever is high at first, and at a late period becomes moderate and even low, notwithstanding the rapidly fatal course.

56. If the morning fever be low, and the evening temperature considerable, the curve will be a steeply remittent one; whilst the remissions are slight when, what with this influence is by no means rare, the fever continues to be high in the morning and evening; still, the remissions may now and then, with very high evening fever, appear for the time to have much importance.

57. In such cases the inverse type may predominate. The terminal temperature in tuberculosis influenced by pregnancy, and the condition of lying-in, is subnormal or normal in two-fifths of the cases, whilst in three-fifths of the cases death takes place when the temperature is elevated, though not to a point beyond 39° C.

ART. 2.—On Miliary Tubercle of the Pharynx and Larynx.

By M. ISAMBERT.

(*Gazette Hebdomadaire*, No. 2, 1873.)

M. Isambert presented before the Société Médicale des Hôpitaux of Paris a preparation taken from a patient who, whilst living, was twice brought under the notice of the Society. This patient presented the form of chronic angina which has been designated by Isambert as *gray disseminated granulations* of the pharynx. A woman who suffered from the same morbid condition, and whose case had been reported by M. Isambert in his memoir on scrofulous angina, died at about the same time from phthisis. M. Isambert then pointed out the analogies which existed between this particular type and granular phthisis, and he expressed the opinion that the second patient would probably die in the same manner. This view was unfortunately confirmed by the event, and the patient died cachectic and with the lungs crammed with gray granulations. Granulations from the pharynx were carefully examined under the microscope by M. Troisier, who found that the granulations taken from the velum palati, the uvula, and from the general pharyngo-laryngeal surface, were identical in structure with the gray granulations found in the lungs. These results were confirmed by M. Vulpian. This identity permits us now to associate with tuberculosis that morbid process which M. Isambert at first attributed to scrofula. There are thus two forms of laryngeal phthisis, one the ordinary laryngeal phthisis which corresponds to chronic pulmonary phthisis, that which terminates in caverns. This laryngeal phthisis is from the first an intra-laryngeal affection, and proceeds by deeply extending ulceration, by perichondritis, by necrosis of the laryngeal cartilages, the morbid cause being very analogous to that of pulmonary lesions.

The second form, which, on the contrary, corresponds to the acute gray granulation of the lung, should therefore take a different clinical course. Its seat at first is the pharynx and not the larynx. The gray granulation, which is developed on the mucous membrane, becomes softened and partly destroyed, and is surrounded by a small ring of ulceration, but it does not produce the ravages which so often result from the other form of laryngeal phthisis. Finally the larynx is attacked but secondarily by the granulations, the patient does not die in consequence of œdema or constriction of the glottis, but succumbs, before the time when these lesions might be produced, to the progress of the pulmonary diathesis and to general marasmus, and in part also to the inanition

due to the pharyngeal ulceration and the resulting dysphagia. The parallel of the two clinical forms confirms then the difference established by pathological anatomy between the two pathological forms of tuberculosis of the throat.

ART. 3.—*Anatomical Relations of Pulmonary Phthisis to Tubercle of the Lungs.*

By WILSON FOX, M.D.

(*Medical Times and Gazette*, March 22, April 5 and 19, 1873.)

According to arrangement, the meeting of the Pathological Society on the 18th March was set apart for the discussion of the anatomical relations of pulmonary phthisis to tubercle. This the President, Sir W. Jenner, Bart., briefly announced, and Dr. Wilson Fox proceeded to introduce the subject. He said that when asked to introduce this subject he had felt its difficulty; but as the Council of the Society desired the discussion he would endeavor to bring it forward to the best of his ability in a manner calculated to elicit the opinions of other members of the Society. There were very many important points connected with the subject of tubercle—so many that it might be said to be illimitable; but he would deal with the whole briefly, and would pass on one side those things which were not essential to his argument. Moreover, in the debate many would be better able to represent certain of the views now currently maintained than he would, so he would pass by the opinions of others, and base his remarks on his own observation. The debates as to the subject of tubercle now extended over two centuries, and it would be impossible to take up the whole history of these in the limited time at the disposal of the Society. He would also on the present occasion, as already notified, adhere to the subject of tubercle as it bore on that of phthisis, for on this connection depended its main interest. True, Niemeyer's view was quite the reverse—that phthisis was mainly non-tubercular; still, he held that phthisis was tubercular, and therefore would deal with the subject in this sense. The clinical varieties of phthisis he would not deal with.

During the last century there was a gradual recognition of tubercle as the cause or basis of phthisis, but by-and-by a discussion arose whether this was allied to scrofula—a discussion which continues to the present day. Early in this century the subject assumed another phase. Bayle, in studying tubercle, came to regard it as something specific—*sui generis*; whilst others, as Hoffmann, maintained that the lesions produced by tubercle were merely the result of inflammation. Between these two views was the main dispute: both looked upon tubercle as a blood deposit, but in other respects they differed. Still, the deposit was called tubercle, whether gray or yellow, hard or soft. Tubercular infiltration was first spoken of by Bayle, and the expression and idea were continued by Laennec, who might be said to have solidified the floating views on the subject of tubercle. These both, however, considered certain gray deposits (now called pneumonic) tubercular, and they took the yellow or crude tubercle as their type. Whatever became dry and yellow, therefore, they called a tubercular deposit. Such were the views held by Laennec and Louis, and they continued in vogue till the time of Virchow. This pathologist said that yellow caseous matter might be produced in many ways; hence it could not be the type of tubercle. He accordingly chose the gray granulation as the type of tubercle, though Bayle had doubted its tubercular character. This was in a certain degree arbitrary, as excluding many things heretofore considered tubercular. Some of these, Virchow said, were dried-up pneumonic deposits. The causes of this caseation required, however, in Dr. Fox's opinion, more definition, and he also doubted whether tubercle can appear in the lung solely in the shape of the gray granulation. However, these views of Virchow were largely accepted and extended, especially abroad, and they found their culmination in Niemeyer's doctrine, according to which phthisis had really nothing to do with tubercle—it was an inflammatory malady, and the presence of tubercle was secondary and accidental. Thus ideas as to tubercle become completely in-

verted—it was no longer the typical mode of producing phthisis, but merely a secondary complication.

Dr. Fox expressed himself as strongly impressed with Virchow's views after studying in Germany, and gave expression of them in his teaching; but dealing practically with pathology, he soon found himself in a difficulty, being unable to say what was tubercle in a lung and what was not. Finding he could not say what was what, the plan he adopted was to get drawings made and descriptions written of each specimen; but he had to go over the whole subject again. Finally, he came to the conclusion that we had to deal with tubercle as a disease, and set himself to work on the lungs of children who had died of acute tuberculosis. These researches led him to believe that we must either draw a purely arbitrary line in saying what was tubercle and what was not, or to study what were the essential and characteristic appearances in such lungs as these. He took the lungs of these children as his type, but in the lungs of adults dying of phthisis the same changes, to all intents and purposes, but certain variations, were encountered. He found, moreover, that the gray granulation (strictly so called) was not so common even in the lungs of children as might be expected, but one larger and more opaque was that most frequently found. Besides these two forms of tubercle there were various others, the nature of which had been laid before the medical public in the abstract already given. He seldom found any one kind alone. Sometimes the gray granulation was thus found alone, but only twice in eleven cases specially analyzed. The tubercles seen were mostly larger than these, and somewhat altered, and with them were associated other changes. The gray granulation was also difficult to find microscopically in the lung-tissue proper. It was composed of minute cells the size of white-blood corpuscles, or smaller than these, inclosed in a fine reticulated network. This network was always encountered, except in the very recent gray granulations, where there might be said to be no room for it, for in the earliest stage a gray granulation might consist of small cells and apparent nuclei alone. Sometimes they found large multiple nucleated cells, but never isolated; so that these might sometimes be said to be made up of masses of nuclei inclosed in protoplasm. Between these large cells and the small cells were many intermediate forms, but the small was the typical cell-form in tubercle.

In the alveolar structure of the lung, however, this typical growth was mixed with other products, having the appearance of the epithelial or other cells normally found in the alveoli, or a development from them. But here also was to be found in the walls of the alveoli and bronchioles the same reticular structure and small cell or nuclear growth as in the gray granulation, though the relative proportion of these might vary. Many yellow tubercles were the result of acute caseous change in many air vesicles, so that sometimes large tracts were affected. Other changes, too, were manifest besides the caseation going on inside the air vesicles; there might be thickening of the wall of the alveolus till the cavity was almost obliterated. This was especially the case where the yellow tubercle was passing into the gray. Probably, he thought, the reticulum in many cases was composed in part of obliterated bloodvessels.

There might be said to be three changes in the lung in general tuberculosis—the gray granulation, epithelial proliferation in the alveoli, and growth in the alveolar wall. This same growth might occur in large tracts, causing obliteration of the vessels in the course of the infiltration. All had the same fundamental structure. In this way, therefore, the gray granulation could not be looked upon as the typical form of tubercle; at all events the others were much more abundant, so that we had to conclude that we had to deal either with two diseases in the same lung, or one disease in two forms. He would assume that the latter was the correct view to take.

Sometimes a typical caseous change might occur in larger tracts. This was called tubercular pneumonia, but it was totally different from ordinary acute pneumonia. In the former the capillaries were obliterated, but this was not the case in ordinary pneumonia. He believed the death and caseation of these tracts were due to the destruction of the capillaries. This might be acute or gradual, and the acuteness of the disease regulates the occurrence of caseous change or thickening of the parts. The change tended under such circum-

stances either towards growth or death—i. e., caseation—and this he considered due to the loss of the vessels of the part. The fibrous change might, however, take place; and shooting into the masses of tubercle in young children might be seen bands almost resembling those of growing and ossifying periosteum. Here we had the gray granulation passing into the fibrous state. This, however, was only part of the general question of the disease-process, and had long been known.

All these changes—caseous infiltration, pneumonic products, reticular growth, hardening, and infiltration—occur in typical acute tuberculosis. If they are seen in an emphysematous lung, a worm-eaten appearance was the result. In some organs tubercle might occur without inflammatory products, but in the lung the two were generally associated, and there was usually a fair proportion of inflammatory products in tuberculosis of the pericardium, pleuræ, and meninges. In these, too, inflammation might go first, and tubercle come after; but, as a rule, they go together. What part does each respectively play in the lung? He thought infiltration of the alveolar wall the most common and most important, but the two kind of changes were found almost invariably in combination in all. He would not attempt to define tubercle exactly, but it might conveniently be said to be an overgrowth of lymphatic elements produced by irritation, general or local. Wherever lymphatic irritability was excessive, there tubercle might be produced, whether as the result of simple irritation or inflammation. He doubted if it was constituted by wandered white blood-corpuscles; but the same cause which produced tubercle in parts having this lymphatic structure might also produce inflammation—so both may be produced at the same time, or the one may follow the other.

Phthisis occurred mainly in two forms, merging the one into the other—one acute, the other chronic. In the acute form yellow and gray infiltration occurred. In scrofulous pneumonia large infiltrations in various forms occurred, but other forms of caseous change were also seen in little spots. But in all the new growth was identical with that occurring in acute tuberculosis. It was no mere accumulation of dried puriform matter, but something differing totally from a simple pneumonic process. In chronic phthisis there was more variety. In that there was always induration, but the induration began in the same way as the tubercular growth. Whole groups of these tubercles might be seen converted into a fibrous tissue not unlike tendon, and between the two were all intermediate stages. It might, however, occur in parts affected by pneumonic change by means of fibrous thickening. These, however, as far as his observation extended, were in the vast majority of cases associated with tubercles in other parts of the same lung. These indurations have been called the results of peribronchitis, but they really begin as tubercle, and the indurations are always mixed with the various types of the new growths. In short, a similar growth may be found in all parts of the diseased lung, whether it was called tubercle or induration. He concluded, therefore, that, whether in acute or chronic phthisis, the foundation of the change was tubercle.

On Tuesday evening, April 1st, the discussion on tubercle, introduced by Dr. Wilson Fox at the previous meeting of the Pathological Society, was resumed. The first speaker was Dr. Moxon, who in the main corroborated the views of Dr. Fox, except as regards the adenoid structure of tubercle. In reality, he said, it had no characteristic structure and no specific character. Thus, he said, in a child killed by being run over in the street, there were found marks of old bronchitis, caseous glands at the root of the trachea, and the lung all round these stuffed with tubercle. Here was a direct change from simple inflammation of the bronchi to tubercle. Where did the specificity commence? It was only a form of inflammation. He held that tubercle was due to caseation, but would not admit with Niemeyer that it was mainly due to the caseation of pneumonia. In the early stages of phthisis you never find this pneumonia extending. Phthisis is always tuberculous, and the earlier it is seen the more tuberculous it is. He held to Buhl's theory, but not to Niemeyer's adaptation of it. Dr. Moxon concluded a most amusing as well as instructive speech by reference to fibroid phthisis, which he characterized as a mistake in every way.

Dr. Cayley followed: he also denied the adenoid structure of tubercle. He

alluded to the existence of giant cells in tubercle, according to the views of Schüppel. Finding many things in the same lung, they were assumed to be alike tubercular. The whole question, he considered, was not yet ripe for settlement; still he thought if they were to speak of tubercle at all, the terms should be limited to the gray granulation, whilst in many cases the changes were the result of inflammation, and the turbercles were secondary.

Dr. Beale thought the tubercle corpuscles had nothing whatever to do with lymph corpuscles, nor that the alveoli of the lung were covered with lymphatics. He could not understand how any irritation could convert a lymph corpuscle into a tubercle corpuscle. The word irritation was used all too vaguely, and Virchow's views with regard to it were untenable. Tubercle, he said, was not easily defined; it consists of living matter, and possesses the power of growth, but there is a difference between its living matter and that of cancer and pus, though the distinction is not possible either by the microscope or reagents. Nevertheless, they are not identical—the life history is quite different; pus grows and multiplies at a greater rate than does tubercle, and tubercle than cancer. So, too, the matters resulting from the death of these are different. Yet all are composed of living matter, though differing in important respects, just as the embryo of the dog does from that of man. He assented to the doctrine that tubercle was a specific body. There are many structures in tubercular masses, though we cannot distinguish them. Under different conditions of growth they give rise to very different forms of material.

Dr. Bastian assented in the main to Dr. Wilson Fox's facts, but differed as to their interpretation. He entered at some length into the history of the subject, and was disposed to think they had better drop the word tubercle altogether. He thought Dr. Fox had been influenced, as Dr. Sanderson was, by the inoculation experiments. Yet these experiments had upset the idea of specificity, inasmuch as almost any irritant would set up the morbid changes which result in the material commonly called tubercle. That this was really tubercle he had never thought. This had an adenoid structure, it was true; but in many conditions in man, as in leucocythæmia and Trousseau's *adénie*, such structures were found and were not called tubercular. Why call it tubercle in rodents? In reality it was strikingly different from tubercle. He thought the restriction of the word tubercle to the gray granulation a difficulty, and would therefore drop it. In chronic phthisis the elements were most Protean; there were epithelial elements, overgrowth of connective tissue, and lymphoid corpuscles.

Dr. Payne came next. He thought it most important to consider the chronology of the various products found in a diseased lung. This was not simple in most cases, for even in the best marked ones we cannot assign exact dates to the various products. Generally we find gray granulations along with inflammatory products. One of these must have originated first, and he fancied it was sometimes the one and sometimes the other. In a preparation which he showed there was a tubercle with air-cells in its neighborhood, showing various inflammatory changes, as also a bronchus showing the results of bygone change, but there were no signs of change in the tubercle, so that we were bound to conclude that inflammation of the bronchus had preceded the tubercle, whilst he thought the changes in the air-cells depended on the tubercle. We always find tubercles of different sizes and ages, and those beginning to be caseous were generally complicated with inflammatory changes. He held that tubercle could be produced by inflammatory matter, and this infection might act as in pyæmia, either directly or on parts at a distance through the agency of the bloodvessels. No argument could dispose of the position that both kinds of changes might be produced by a common cause. He was by no means certain that the catarrhal disease which commences phthisis was of a simple kind. Often, too, he said, the structure of a tubercle varied with the direction of the section examined.

Dr. Powell considered acute tuberculosis as dependent solely on the gray granulation—a very definite form of disease. In these miliary tubercle of the lung is not accompanied by pneumonia. There might be epithelial shedding, but that is to be found in any hyperæmia of the lung. There was no tendency

to break up, but rather to fibroid change. That was not phthisis, but tuberculosis of the lung. In subacute phthisis with local tubercle in the lung, there was always catarrhal pneumonia tending to break up the lung. It was not easy to remove inflammatory products from the lung; they were often retained, and tended to set up inflammatory changes. The motion of the parts and the exposure to the air of these products had also to be considered as a cause of disease. He did not think that specificity was at all necessary.

On Tuesday evening, April 15th, the discussion on the relations of tubercle to phthisis was resumed and brought to a close. The speakers were Drs. C. J. B. Williams, Green, Crisp, Pollock, and Burney Yeo. Dr. Wilson Fox also replied to the various objections brought against his views.

Dr. C. J. B. Williams thought the discussion had been too much one on words—what things should be called, rather than what they are. The material found in the lungs had been called a "growth;" if so, it was a despicable one, for its chief characteristic was a tendency to decay. No doubt tubercle resembled lymphatic tissue, but it was not a simple overgrowth of that tissue, otherwise we should have an increase in the tuberculæ as well as in the corpuscles, which we do not. Tubercle was mainly a corpuscular growth, and was a diseased condition of that portion of lymphatic tissue only. The corpuscles were hardened as well as multiplied, and in some also there was a fibroid element. These corpuscles were identical with the colorless corpuscles of the blood, and his notion as to their origin was either that they began in the lymphatic system as a miliary tubercle or were the results of inflammation and migration from the bloodvessels. Fibroid phthisis he considered a reality; it was not a thing of the past time only. And the fibrous material he believed to be primordial fibrous elements, formed directly from blood plasma, and not from connective tissue. The basis of the fibroid disease was the tendency to contraction; of the corpuscular form, to caseation and infection. These together constituted the bases of consumption.

Dr. Green said the change found in a tuberculous lung was of two kinds, viz., accumulation of large epithelial cells in the alveoli, and small cells in the walls of these. The former was commonly called a pneumonic product, the other described as tubercular. In reality they were the result of the same process, and this process was essentially inflammatory. The preponderance of either would depend on the intensity of the process. In many cases of tuberculosis they were so intimately associated that it would be impossible to speak of them as cause and effect. It was not a question of the one producing the other: both were produced by the same cause. The more intense irritation tended to cause proliferation of the epithelial elements of the alveoli; the less, the growth of the adenoid elements of the walls. Frequently the small cell growth tended to become fibroid, whilst the large cells tended to caseation and death—this being in part due to their remoteness from the blood-supply.

Dr. Crisp thought we should do no good in the investigation until we altered our modes. We should begin with the lowest organism in which tubercle was found, and gradually ascend the scale. Tubercle was to be found in all animals except fishes, and even in them when grown in overstocked ponds there was something analogous to it. But in the phthisis of the lower animals there were no hæmoptysis and no cavities. He thought the results of inoculation were more akin to pyæmia than tuberculosis.

Dr. James Pollock held that our views were still transitional. We had displaced Laennec and Louis, though these observers had been marvellously successful in adapting themselves to the clinical side of the question. Laennec erred in asserting the specific character of tubercle as far as one entity was concerned, and he was glad to find Dr. Fox falling back on doctrines such as were advanced in his opening address. This was no retrogression, but a true advance. Niemeyer's school had come to look on tubercle as altogether a secondary matter in phthisis. For his own part, he objected to catarrhal pneumonia being made the essential element in phthisis. He was inclined neither to accept the views of Laennec nor the inflammatory theory absolutely. He believed in the specific character of tubercle. By whatever name it was called, no one would admit that common catarrh or hæmoptysis was the cause

of phthisis. Behind all these there was something specific. He believed the varieties of phthisis to be these—acute miliary tuberculosis without ulceration, tuberculosis with ulceration, fibroid phthisis, and that depending inflammatory deposit. According to the character of the preponderating growth, so was the character of the phthisis. He believed that lymphoid phthisis was the old scrofulous phthisis.

Dr. Burney Yeo said there had been no difference as to facts, but in the debate one side of the subject—viz., the pathological—had been too much considered, whereas we should consider the whole life-history of the disease. It was said not to be specific, because there was no specific structure, but histological identity was not the same as living identity. It had been argued that all the changes were inflammatory; this might be simple, but it was not satisfactory. There were two main forms of phthisis—the tubercular and inflammatory. The chronic form of phthisis was largely inflammatory; the acute mainly tubercular. The two originated differently.

Dr. Fox replied at length to the various speakers, and the meeting adjourned.

ART. 4.—*A Contribution to the Clinical Study of the Etiology of Pulmonary Tuberculosis.*

By AUSTIN FLINT, M.D.

(*New York Medical Record, and Medical Times and Gazette, May 24.*)

This paper is based upon the results of the analysis of 670 cases observed during a period of thirty-four years, 448 of the number occurring in private, and 222 in hospital practice. From a careful examination of this extensive field of observation Dr. Flint arrives at some interesting conclusions:—

1. *The Influence of Sex in the Etiology of Pulmonary Tuberculosis.*—In private practice there were 321 male to 127 female patients, and in hospital practice 187 males to 37 females. United together the number of male cases was 505, of female 164, the former being nearly two-thirds in excess of the latter. The result of this analysis is at variance with the statistics of Louis, who found that of 123 cases observed at La Charité (where the beds were equally divided between the sexes) there were 66 women and 57 men. "This variation, perhaps, illustrates the liability of such statistics to be affected, at different times and places, by extrinsic circumstances which are not always readily determinable."

2. *The Influence of Occupation.*—Among the male cases in private practice the occupation was noted in 212. As many as seventy different occupations were represented. Clerks presented by far the largest contingent, being thirty-two in number, and allied to them were four bookkeepers. The number of physicians was thirty, and that of medical students eight; "but, doubtless, circumstances of a personal character determined the number of the representatives of the medical profession, so that this number is not to be considered as any evidence of the influence of the calling on the etiology of the disease." Merchants numbered fifteen, lawyers fourteen, and farmers eleven. Passing over Dr. Flint's enumeration of the less frequently occurring occupations, we come to his hospital cases. The occupations in 158 of these were noticed, and forty-eight such occupations were represented. That of "laborer" far outstripped the rest, being sixty-nine in number, this occupation, in fact, much predominating among the admissions. The general conclusion arrived at with respect to cases both in private and hospital practice is that sedentary occupations with confinement within doors, often in small, heated, ill-ventilated rooms, are a prolific cause of the disease.

"Making due allowance for the circumstances which determine men of different occupations to resort to hospitals, the result of this numerical analysis of my cases in hospital practice corresponds to that of the analysis of cases in private practice. The general conclusion is that occupation has an agency in the etiology of pulmonary tuberculosis, in so far as it is sedentary and involves

confinement within doors. If it be said that this conclusion is in accordance with what is already known, I answer that the correctness of the conclusion is thereby made the more certain. My object is to study, by means of numerical analyses, my cases without reference to the researches of others, and if the results of my analytical investigation are in conformity with those which have already been obtained, this is certainly no disparagement of their correctness, nor does it impair their value as a contribution to our knowledge."

3. *The Influences of Antecedent Diseases.*—This point Dr. Flint pursues at considerable length, but we have only room for his summary:—

"1. Inflammatory affections within the chest—namely, pleurisy, pneumonia, and bronchitis—have very little, if any, causative influence in the development of the disease. 2. Hæmoptysis, when it is not a symptom of existing pulmonary tuberculosis, should be considered as having the significance of a prodromic event, but there is no clinical evidence of its standing in a direct causative relation to the disease. 3. The absence in my collection of any cases in which asthma, emphysema, and organic affections of the heart were antecedent affections, may be noticed as sustaining the opinion that these affections are antagonistic to the liability to pulmonary tuberculosis. Here I refer to 'negative facts,' and they are subject to the qualifications stated at the beginning of this paper; but it is certain that in the considerable number of cases in which the previous health was noted, if these affections had existed, their existence would have been entered on the records. 4. Of the antecedent 'general diseases' the number of instances in which intermittent fever had existed might perhaps lead to the conclusion that malaria is to be reckoned among the causes of pulmonary tuberculosis. But when it is considered that nearly all my cases were observed in sections of country more or less malarious, a large allowance has to be made for mere coincidence. Hence that malaria does not protect against tuberculous disease is the only deduction admissible. With regard to other essential fevers—measles, smallpox, typhoid and yellow fevers—the number of cases in which these diseases existed antecedently is so small as to afford little, if any, evidence of an etiological influence referrible to them. 5. My cases afford no evidence that scrofula (meaning by this term an affection a distinctive feature of which is enlargement and suppuration of the cervical glands, leaving characteristic cicatrices) enters into the etiology of pulmonary tuberculosis. 6. The results of my analysis go to show that, aside from the diseases named in the foregoing propositions, there are none which are to be considered as involving a special tendency to the subsequent development of pulmonary tuberculosis. Twelve additional diseases only appear on my records; of these twelve eight are severally represented by a single case. Those which are represented by more than one case are dyspepsia, perineal fistula, rheumatism, and syphilis. The number of cases representing these is altogether too small to give evidence of a causative relation. There is no evidence derived from my analysis to sustain the hypothesis of Niemeyer, which attributes the production of milary tubercles to the absorption of morbid products in different parts of the body.

"In conclusion the result of my analysis, in so far as it has been extended, sustains the doctrine that pulmonary tuberculosis is eminently a diathetic disease: that is, it arises from an internal or constitutional determining agency, which it has been customary to designate a diathesis. Assuming this to be a correct conclusion, it would be unprofitable to speculate concerning the essential nature of the diathetic condition. Taking, however, this conclusion as a point of departure, it remains to determine, by clinical studies, the causes of the tuberculous diathesis. As regards this object there are various points of inquiry, prominent among which are questions concerning habits of life, congenital disposition, hereditary influence, and, perhaps, contagion. I reserve an analysis of my cases with reference to these and other points for some future occasion."

ART. 5.—*On the Infective Product of Inflammation.*¹

By J. BURDON SANDERSON M.D., F.R.S.

(The Lancet, May 24.)

The paper contains the results of researches made, for the most part during the early part of 1872, for the purpose of elucidating the pathology of secondary inflammations. It is divided into three parts.

In the first part the nature of the process of inflammation is treated of, with special reference to the question how a primary inflammation gives rise, on the one hand, to general constitutional disturbance, and on the other, to the establishment of new foci of inflammation in parts remote from the original seat of irritation or injury. To distinguish those inflammations which exhibit the tendency to produce the effects in question the author uses the word "infective," understanding it to express two sets of characteristics—one relating to what occurs at the original seat of inflammation, the other to the induced effects which manifest themselves elsewhere. Of the two groups of phenomena, it is obvious that those which are remote from the seat of primary action claim most attention in relation to the present inquiry. They consist partly in the springing up of new foci of irritation or inflammation along the course of the infected channels, partly in the occurrence of changes in the blood itself (not yet investigated) of such a nature as to show that it is impregnated with an infective poison. In investigations made by the author in 1867-68, one branch of the question of phlegmonous infection was worked out with some completeness. It was then found that when, in the lower animals, particularly in guinea-pigs, local inflammations are produced either in the skin or the peritoneum by the introduction of irritant substances, two distinct sets of consequences manifest themselves—namely, on the one hand, the production of chronic disease, affecting all the internal organs, having the characters of a chronic interstitial inflammation (*i. e.*, irritative germination of the interstitial tissues of the lung, liver, spleen, etc.), resulting in slow caseous or fibrous degeneration, and destroying life by a gradual process of wasting; on the other, an acute process in which the same organs and tissues are affected much more rapidly, and in which we have to do with two additional elements—namely, fever and the formation of abscesses in the irritated tissues. To both of these processes the author applies the word "infective," as in certain cases both appear to spring from an infection derived from the same source—*i. e.*, from the same primary inflammation—and progress in the same animal at the same time.

The second and third parts of the paper are entirely occupied with a summary of the experimental results. After a short account of the work of previous years, the author proceeds to give a detailed description of the more recent experiments on which his conclusions, so far as relates to acute secondary inflammation, are founded. These are divided into two series. In those comprised in the first series, the liquids of acute inflammations of great intensity were used, and the induced disease exhibited those characters which are expressed by the word septicæmia. The results of these experiments, 27 in number (which were shown to the Society in a table), may be summed up as follows: Of the 27 experiments, serous liquids were employed in 18; liquids of subcutaneous suppuration in 4; liquids from softened and infective nodules and lymphatic glands in 3; and in two others the contents of an inflamed uterus. The table also exhibited another experiment in which the blood of an infected animal was used. All these liquids were employed immediately after their removal from the living body of the diseased animal, and contained at the time bacteria. The animals observed were guinea-pigs, dogs, or cats. In 4 cases the liquid was injected into the jugular vein; in the rest into the peritoneum. The quantities used varied from three minims to twenty-four minims. Although the liquids were similar, all being products of rapidly-progressing infective in-

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, May 13th.

inflammations, the induced results were not all of equal intensity. In 20 out of the 27 experiments tabulated, death took place within twenty-four hours. Of these, all excepting 3 received the excitant in the peritoneum. Peritonitis existed in every case, and it was observed that it was no less intense in those cases in which the liquid was injected into the jugular vein than in the others. It was also observed that after injection into the peritoneum the pleura and pericardium were often found to be as intensely inflamed as the peritoneum itself. In all but very rapid cases the peritoneal exudation exhibited the same character. It was viscid and coagulated imperfectly. It contained pus-corpuscles in small numbers and the liquor puris often exhibited, when subjected to examination with high powers, a tremulous movement of the liquid, which was found to be due to the presence of extremely minute rods. In almost all the experiments tabulated the blood exhibited microscopical appearances which were striking and unequivocal. The liquor sanguinis contained rod-like particles, and possessed in some instances a peculiar viscosity, the nature of which must form the subject of future investigation. In the larger animals death is preceded by phenomena which resemble those of putrid infection. This is shown in the paper by a careful comparison of the symptoms with those described by Bergmann as resulting from the injection of putrid liquids into the veins. It is, however, to be observed that the quantity of a putrid liquor required for the production of the same effect is incomparably larger than that employed in the present experiments.

In the course of the experiments of this series it was repeatedly observed that inflammations of a highly infective character, yielding exudation products rich in septic microzymes, may be induced by the introduction of chemical irritants either into the subcutaneous tissues or into one of the great serous cavities, even when liquids used are themselves destructive to the life of these minute organisms, or have been subjected to prolonged ebullition immediately before, and when all other precautions are adopted to guard against the possibility of septic contamination from without.

In the experiments of the second series, the infecting liquids used were not products of what might be called virulent inflammation, but of more slowly progressing inflammatory processes, chiefly characterized by softening or unhealthy suppuration, either of nodules or previously consolidated or infiltrated tissues. In the examples given, the material was derived in each instance from the diseased lungs of human beings or animals affected with chronic pulmonary tuberculosis in the stage of softening. The lesions were substantially the same in all: the serous cavities were inflamed, and contained variable quantities of exudation liquid charged with bacteria, and in most cases there were extensive adhesions and false membranes; and, in all, the viscera contained "infection-nodules," which were hard and firm externally, with purulent centres.

In the concluding paragraphs of the paper the author cautiously expresses the inferences which he thinks are justified by the experimental results. He thinks that it has been shown that the condition which is expressed by the word septicæmia (including under the term, not only septic fever, but also the intense mucous and serous inflammations by which it is accompanied) may be produced independently of the entrance of septic matter from without by the introduction into the serous cavities or into the circulation of liquids derived directly from living tissues in certain stages of inflammation, and that the process by which infective abscesses are formed in various organs and tissues at a distance from some primary focus of inflammation of similar origin, both being due to the existence in the circulating blood of an infective agent which, although of purely intrinsic origin, yet possesses all the characters of a septic poison.

The question of the origin of the infective agent itself Dr. Sanderson regards as entirely distinct from that of the intrinsic or extrinsic origin of the minute organisms by which its presence is declared, for, to quote the concluding sentence of the paper, "It does not at all follow because these organisms come in from outside that they bring contagium along with them. It may be readily admitted that they may serve as carriers of infection from diseased to healthy parts, or from diseased to healthy individuals, and yet be utterly devoid of any power of themselves originating the contagium they convey."

ART. 6.—*Report of a Case of Scarlatina: Parotitis; Extension of Disease to Brain; Death.*

By BALTHAZAR FOSTER, M.D.

(*British Medical Journal*, May 3.)

At a meeting of the Birmingham and Midland Counties Branch of the British Medical Association, March 13, Dr. Balthazar Foster related a case of scarlatina which proved fatal by extension of inflammation from the left parotid gland to the brain along the internal jugular vein. The patient was under five years of age, and had been admitted into the General Hospital with well marked scarlatinal rash and slight sore throat. The case was complicated by severe bronchial catarrh, which, however, yielded to treatment; but on the fourth day after admission, parotitis of the left gland began, and was followed by a new crop of the rash. In the course of three days, the left parotid gland was so much enlarged, that the jaws could not be separated. The patient died on the eleventh day after admission, death being preceded by stupor and great exhaustion, but no convulsions. During the last day of life, the enlarged gland was reddish on the surface, but there was no fluctuation. There was no discharge from the ear and no albuminuria during life. The necropsy disclosed a healthy condition of the thoracic and abdominal viscera; the bronchial tubes were hyperæmic; the kidneys healthy to the naked eye and under the microscope. The parotid gland of the left side was found enlarged to four times its natural size; the central part was softened and broken down. The inflammatory mischief could be distinctly traced along the internal jugular vein, through the foramen jugular to the under surface of the cerebellum. There was great thickening of the walls of the left lateral sinus and clotting in its cavity. The internal and middle ears were healthy and the Eustachian tubes. The tonsils were only superficially ulcerated. Dr. Foster exhibited the parts showing the course of the inflammation, and argued that the parotitis was due rather to the effect of the scarlatinal poison, than to extension of local mischief from the buccal cavity, as in some cases.

ART 7.—*Case of Multiple Cirrhosis of the Lungs.*

By THOMAS HAYDEN, M.D.

(*Medical Press and Circular*, Jan. 29.)

At a meeting of the Dublin Pathological Society, January 25th, Dr. Hayden exhibited an example of multiple cirrhosis of the lungs, resulting from chronic interstitial pneumonia, together with circumscribed and exaggerated vesicular emphysema, compensatory of the former. A man, aged forty-three, a pensioner from her Majesty's army, who had spent nine years in India, and had, whilst there, fever and ague, was admitted into the Mater Misericordiæ Hospital on the 27th December, 1872. Two years previously his health became deranged, and his respiration embarrassed, with some pain of the chest. Three weeks before the date of admission his feet began to swell. When in hospital his condition was the following: he was cyanosed; unable to lie down from difficulty of breathing; the lower extremities were œdematous and livid; pulse rapid and feeble; precordial dullness abolished; the heart pulsated behind the ensiform cartilage. Its action was feeble, and its sounds, which were all but completely masked by loud bronchial râles, were free from murmur. The chest walls were generally hyper-resonant, and loud bronchial râles were audible all over it. Expiration was prolonged, and, in short, all the ordinary signs of emphysema existed, with which it is unnecessary to occupy the time of the Society, with one exception, and that had reference to a phenomenon which, in Dr. Hayden's judgment, had a special diagnostic value. In the lower and back part of the left side, and in the left sub-clavicular region, an auscultatory phenomenon of a peculiar character was heard, both with inspiration and expiration. It might

be described as a sibilus, with a metallic quality, and might be conveniently designated as an amphoric sibilus; such a sound as one might suppose produced by blowing through a reed into an empty cask. From this sign localized exaggerated vesicular emphysema was confidently diagnosed. On a former occasion Dr. Hayden laid before the Society the particulars of a case in which, from the evidences afforded by a similar phenomenon, he made the diagnosis of a corresponding state of the lung, and the morbid specimen he then exhibited to the Society confirmed his diagnosis. The urine was normal, and passed in small quantity. The condition of the man underwent alternate changes of improvement and retrogression. The legs were punctured, and a large quantity of serum was thus evacuated. He sank by a gradual process of asphyxia and failure of the right side of the heart, and died on the 19th of January, 1873. The thoracic viscera were alone examined. The lungs were extensively adherent to the chest walls. The pulmonary pleura on the right side was a quarter of an inch thick, and sent strong fibrous bands from its deep surface into a portion of the lung about its centre. This portion of the organ, about four inches square, was perfectly solid, and when cut into grated under the knife, was devoid of air, and exhibited in section dense white bands of fibrous tissue, forming a close network. Examined under the microscope, this portion of the lung exhibited a greatly hypertrophied condition of the connective tissue, with total obliteration of the air-cells. The apex of the lung was blown out into something like a bladder as large as the clenched hand. This was expanded and overlay the depressed surface corresponding to the contracted and rigid portion previously described. The base of the left lung was the seat of pneumonia in its first stage. It was solid, vascular, and readily broken up under pressure. The upper portion of the interior lobe formed a bladder-like expansion similar to, but larger than that of the right apex. The apex of the left lung presented a similar condition of over-inflation. These three portions of the lungs were raised considerably above the surrounding surface, were strictly circumscribed, of tympanic resonance, and fixed in their respective situations. They presented examples of veritable localized vesicular emphysema, consisting of over-inflated air-sacs, with a partial rupture of the intervening septa. The anterior edges of the lungs, which were likewise emphysematous, overlay the pericardium, to which they were firmly attached by old adhesions. The lungs were considerably in excess of the normal volume. The trachea and primary bronchi were dilated and congested. The heart was generally dilated and hypertrophied, especially the right ventricle; it weighed eighteen ounces, but was structurally healthy, as were likewise the valves. Dr. Hayden begged to remark in reference to this case, that it was interesting as affording an example of several distinct centres of chronic interstitial pneumonia, followed by hypertrophy and contraction, with limited compensatory emphysema of the lungs. These changes, no doubt, dated from the period of his illness two years previously. The case was, however, especially interesting in a diagnostic sense, as affording an example of an auscultatory phenomenon, which he ventured to regard as pathognomonic of exaggerated and circumscribed vesicular emphysema, and for want of a more convenient term would designate as *amphoric sibilus*. Theoretically, it was not difficult to conceive how this phenomenon was produced. An air tube, of very small calibre, opening abruptly into a large air chamber with membranous walls, would conceivably yield such a sound during the entrance and exit of air correspondingly to inspiration and expiration respectively. The practical value of the sign is, however, of greater importance than the theory of its production; and having now made the diagnosis of the condition of the lung previously mentioned on two several occasions from this sign alone, and having been borne out by the result of post-mortem examination in both these cases, Dr. Hayden ventures to regard it as pathognomonic of the condition mentioned.

ART. 8.—*Report of a Case of Cancer of the Lung.*

By A. W. FOOT, M.D.

(Dublin Journal of Medical Science, December, 1872.)

At a meeting of the Pathological Society of Dublin, Dr. Foot laid before the members an exceedingly well-marked example of primary encephaloid sarcoma of the left lung, exhibiting at the same time the opposite lung, in order to show its perfect immunity from disease. Drawings of each lung made while the parts were quite recent, were also presented to the Society. The subject from whom the specimens had been taken was an Italian image-maker, aged fifty-seven; he had been under Dr. Foot's observation in the Meath Hospital for seven weeks before his death, which occurred unexpectedly from red softening of the left corpus striatum, which had induced sudden, right hemiplegia and aphasia, without complete loss of consciousness, lasting seventy hours. He had been ailing for three months before he came into the hospital, and was complaining of dyspnoea on exertion, and of a sensation as if a great weight lay across his chest. Examination of the left chest gave all the physical signs of effusion into the pleural cavity, chronic and receding, as the side was somewhat contracted. The sense of resistance, however, to the finger was different from that given by fluid; the heart was not displaced, but intense pericardial friction was audible over a space measuring six inches vertically by five inches transversely. After some time the friction ceased and never returned; universal adherence of the layers of the pericardium was found after death. There were neither enlarged glands, œdema of the left arm or thorax, varicose veins, lancinating pains, hæmoptysis, cachexia, peculiar sputa, hectic, protrusion of the intercostal spaces, or any of the phenomena which would assist in a differential diagnosis between fluid in the pleura and cancer of the lung, under which name this form of tumor has hitherto usually been described.

After death the left lung was found diminished in bulk, vastly increased in weight, condensed and infiltrated from base to apex with a cream-colored growth, irregularly bounded, towards the periphery, by a margin of compressed pulmonary tissue of an iron-gray color. The only tube traversing the centre of the mass was the pulmonary artery, rendered triangular by pressure, and nearly obliterated. The bronchial tubes had quite vanished, and the pulmonary veins could scarcely be made out even at their exit. About an ounce of clear serum lay in the summit of the cone of the pleura; elsewhere the lung was adherent to the diaphragmatic, costal, and mediastinal pleuræ. The opposite lung was perfectly free from external or internal deposit, enlarged in all its dimensions, congested, and possessed a small supplementary fourth lobe. The left lung was fused with the left side of the heart and pericardium, but there was no particular implication of mediastinal glands, so as to form any noticeable tumor. Parts of the infiltrated left lung were softer than others, and in forty-eight hours the thick creamy pulp of this form of sarcoma became very evident on pressing or scraping the cut surface. No organ or gland in the abdomen exhibited any sign of secondary contamination, neither were the axillary or cervical glands infected; some of the superficial left inguinal glands were slightly enlarged, but not more so than might be caused by cutaneous irritation about the genitals, set up during the seventy hours of hemiplegia. The left side of the arch and the descending aorta were firmly bound to the diseased lung; paralysis of the left recurrent nerve by the pressure had caused an aphonia which suddenly came on about a fortnight before death.

The microscopic appearances of the lung were eminently those of primary encephaloid carcinoma, but microscopic examination showed neither the alveolar stroma nor the large, variously shaped cells of that genus of tumors. The cells were very uniform in size, delicate, round and oval in outline, with many fatty granules and corpuscles of Gluge: it was a very well marked example of round-celled sarcoma of the encephaloid variety. Dr. Foot expressed his opinion that some of the crumbling débris of a softened portion of the sarcoma had

found its way into the pulmonary veins, and thence carried to the brain, had caused capillary embolism in the vessels of the left corpus striatum, but after a most careful examination of the parts he found himself unable to actually demonstrate that this had been the immediate cause of death.

ART. 9.—*Hospital Hygiene.*¹

By CHARLES LANGSTAFF, M.D., Surgeon to the Royal South Hants Infirmary.

The following is a summary of what Dr. Langstaff has expressed in his brochure :—

First, That it is impossible to localize individual cases, unless our large hospitals are pulled down and new ones erected.

Secondly, That to improve the hygienic condition of our hospitals it is necessary :—

1. To render the walls, floors, ceilings, furniture, etc., non-absorbent.
2. That the wards be cleared out once in every six months, and remain empty at least for a week.
3. To admit air as pure as possible, and keep it so by the use of an antiseptic purifying process.
4. To have the drainage rendered so perfect that no back-current can pass through the traps of the closets, sinks, etc.
5. To employ such a method of dressing wounds as will render the putrefactive process impossible, and prevent the development of septic germs.
6. To have all clothing, alvine evacuations, etc., disinfected as soon as possible.
7. To prevent the contamination of one patient by another, and the conveyance of poison germs by the attendants.

ART. 10.—*An Analysis of Ship Air, and its Effects.*²

By ALEXANDER RATTRAY, M.D. Edin.; Surg. R.N., H.M.S. *Britannia*.

Communicated by GEORGE BUSK, F.R.S.

(*The Lancet*, Jan. 25.)

Much, perhaps nine-tenths, of the sickness prevalent in H.M.'s Navy is preventible. Many diseases result from impure air. Experiment shows that ship air is more vitiated than is generally supposed. No analysis has hitherto been made. Without a correct knowledge of the intensity and nature of the pathological agents we cannot fairly estimate their effects or endeavor to counteract them.

Measurement showed that in H.M.'s frigate *Bristol*, the type of a large class, the crew had little more than from 100 to 120 cubic feet space at night, and 60 at meals; officers about 400. This contrasts with the 600 cubic feet allowed soldiers in cold and 1500 in warm climates; hence chiefly why ship air is more impure than that of barracks or private dwellings generally. Although large ironclads give a greater air-space, they are more shut in, and the internal atmosphere is probably equally impure.

The results of 150 experiments, during a four months' voyage from the Cape of Good Hope to England, show that carbonic acid, chiefly derived from the lungs, is the great impurity. This varies from 4 to 18 vols. per 1000, and even more in the deeper parts. For obvious reasons, it is most abundant where and

¹ "Hospital Hygiene." By Charles Langstaff, M.D., pp. 47. London, J. and A. Churchill, 1872.

² Read at a meeting of the Royal Medical and Chirurgical Society, Jan. 14th.

when the men are crowded—*e. g.*, on the berth-deck, at meal times, and at night. It also varies with the ventilation.

Ammonia from the urine; sulphuretted hydrogen and sulphide of ammonium from the bilge; volatile organic matter, chiefly from the lungs, skin, and mucous membranes; watery vapor from the skin, lungs, and sodden decks; microscopic floating dust or débris from the ship, stores, and crew, are also estimated; the quantities being more abundant than is consistent with health. Ozone diminishes as the impurity increases, and is absent in the innermost parts.

The mechanical and chemical pathological effects of carbonic acid are immediate and remote. From a nightly renewed imperfect blood aëration follow lung congestion and a predisposition to pulmonary and cardiac ailments, easily excited by the sudden chills of nightwork and severe exercise aloft. Hence the frequency of diseases of the respiratory and circulatory systems—*e. g.*: phthisis, bronchitis, catarrh, etc. From its non-elimination, and perhaps reabsorption, spring general blood and tissue poisoning, imperfect nutrition and function of every organ and system, whether nervous, muscular, or granular, a long list of more or less obvious, but perhaps oftener obscure ailments, and ultimately premature old age. These results are aided by the long inhalation of organic matter—sulphide of ammonium, etc., and perhaps the deficiency of ozone.

The practical conclusions show the necessity of giving ships the best ventilating apparatus; of always keeping this efficient and at work; and of not trusting solely to fixed systems, but aiding these, when possible, by others; as the air which all, and especially fighting-men, breathe, cannot be too pure.

ART. 11.—*On Overwork and Premature Mental Decay, and its Treatment.*¹

By C. H. F. ROUTH, M.D.

(*British Medical Journal*, Dec. 9, 1872.)

After some well-merited praise to the efforts of Dr. Richardson in the same direction, and some remarks on the nature of the present hard-working and competitive age as compared with former ages, Dr. Routh proceeded to show, upon the authority of Dr. Elam, that there had been a very large increase in the mortality from diseases of the brain in England; the increase of the population being 30 per cent., while the mortality from diseases of the brain had increased fourfold. So deaths from paralysis and apoplexy had increased from 10,000 to 22,000 annually; deaths from insanity had also nearly doubled; and he showed that there was a direct relation in this increase with the agitation of the times. Dr. Maudsley and others had endeavored to show that this numerical increase was due to increase of population, and better search after and segregation of the insane. In the last published report of the Commissioners in Lunacy, the ratio per 1000 of the total number of lunatics, idiots, and persons of unsound mind to the population showed an increase each year from 1869, when it was 1.86, down to 1872, when it reached 2.54. The author then enumerated the symptoms of mental decay, showing that they resembled the gradual change that came over old people, and yet were very similar also to those induced by venereal excesses in both sexes, except that in the latter there were symptoms of spermatorrhœa, which were absent in cases suffering from overwork. In both cases the tendency was to the production of idiocy from softening of the brain and insanity. He said there was reason to believe that the immediate cause of these symptoms was deficiency of phosphorus in the brain, endeavoring to prove this by considering *seriatim* the following points: 1st. It is proved chemically that as a man grows older and mentally weaker, or becomes idiotic, so the brain contains less phosphorus; this was shown by the analysis of Heritier. 2d. The solidity of the brain in a measure depended upon

¹ Read at a meeting of the Royal Medical and Chirurgical Society, November 26th.

protagon, a phosphoric compound, and those foods which were richest in phosphorus were found by experience to renovate most speedily weakened brain power, such as shell-fish, and fish generally. 3d. The assertion made by some, that phosphorus could only be assimilated by previous conversion into phosphoric acid, was combated, the effects of the two being shown to be perfectly different—phosphoric acid producing, in large doses, fatty degeneration of the heart, liver, and kidneys, whereas phosphorus produced necrosis of the jaw-bone, and excited the nervous and sexual system. The opinion of Dr. von Bibra was also quoted in evidence of this. Phosphorus also reduced or removed congestion of the brain. 4th. Dr. Routh next showed that those diseases produced by weakened nervous matter, or anæsthesia, were precisely those which were cured oftentimes by the internal administration of phosphorus—viz., some forms of paralysis, eczema, and other skin affections, cerebral congestions with great debility and insomnia. The authority of several writers was cited on these points—Delpech, Professor Fischer, of Berlin, Dr. Eames, Dr. Burgess, and Dr. Hammond, of New York. 5th. The special treatment indicated in these cases was next considered. (1.) Complete rest of mind, especially abstinence from all occupations resembling that upon which the mind had been overworked. (2.) The encouragement of any new hobby or study, not in itself hurtful, which the patient might select. (3.) Tranquillity to the senses which especially give in these cases incorrect expressions, putting only those objects before them calculated to soothe the mind. (4.) A very nourishing diet, especially of shell-fish. (5.) The internal administration of phosphorus, whether in its allotropic form, or as the “*solutio phosphori medicati*,” prepared according to Dr. Hammond’s formula. (N.B. To be had of Mr. King, Crawford Street.) Some cases bearing out the author’s views were subjoined, but not read, owing to the lateness of the hour.

ART. 12.—*On a Hæmatozoon Inhabiting Human Blood: its Relation to Chyluria and other Diseases.*

By T. R. LEWIS, M.B., Assistant-Surgeon H.M.’s British Forces.

The following is a summary of the observations and the inferences which have been deduced therefrom, contained in a pamphlet on the above important subject:—

1. The blood of persons who have lived in a tropical country is occasionally invaded by living microscopic filariæ, hitherto not identified with any known species, which may continue in the system for months or years without any marked evil consequences being observed; but which may, on the contrary, give rise to serious disease, and ultimately be the cause of death.

2. The phenomena, which may be induced by the blood being thus affected, are probably due to the mechanical interruption offered (by the accidental aggregation, perhaps, of the hæmatozoa) to the flow of the nutritive fluids of the body in various channels, giving rise to the obstruction of the current within them, or to rupture of their extremely delicate walls, and thus causing the contents of the lacteals, lymphatics, or capillaries to escape into the most convenient excreting channel. Such escaped fluid may be the means of carrying some of the filariæ with it out of the circulation. These occurrences are liable to return after long intervals—so long, in fact, as the filariæ continue to dwell in the blood.

3. As a rule, a chylous condition of the urine is only one of the *symptoms* of this state of the circulation, although it appears to be the most characteristic symptom which we are at present aware of.

4. Lastly, it appears probable that some of the hitherto inexplicable phenomena by which certain tropical diseases are characterized, may eventually be traced to the same, or to an allied condition.

ART. 13.—*Progressive Muscular Atrophy, Accompanied by Muscular Rigidity and Contraction of Joints, with Examination of the Brain and Spinal Cord.*¹

By J. LOCKHART CLARKE, M.D.

Communicated by Sir WILLIAM GULL, Bart., M.D.

(*British Medical Journal*, December 7, 1872.)

A man at the age of thirty became affected with frequent vertigo, which lasted for three years. From this period he found that he was obliged to be very slow in all his movements, and that if he attempted to move his limbs quickly they trembled very much. Subsequently he felt weakness in the left leg, so that he would suddenly fall down, without feeling giddy, and the calf of that leg began to waste. Then the muscles of the right leg wasted, and four months later he noticed wasting of the muscles of the left shoulder. He complained of severe dragging pain in the arms and legs. These symptoms gradually increased through a number of years, so that at the age of fifty-eight he was quite unable to stand, or even to turn in bed, or feed himself. There was great muscular rigidity. Almost all the muscles of his body were much wasted, especially those of the upper extremities. The respiratory movements were very feeble. There was no trouble with his bladder, nor any noticeable alteration of cutaneous sensibility, but electric sensibility was almost abolished. His speech was indistinct and nasal. Deglutition became difficult, and at last almost impossible, and saliva ran from his mouth. The fibrillar tremors and rigidity of the muscles wholly disappeared during the last week of his life. Parts of the cerebral convolution were thickly interspersed with corpora amylacea, and many of the blood-cells of the white substance were enlarged. The cells of the gray substance were not altogether healthy. The pons Varolii was somewhat below the average size; its bloodvessels were much dilated. The corpora amylacea were thickly interspersed. The medulla oblongata was about one-fifth below the average size in the adult. All its nuclei were decidedly smaller than usual, and their cells were more or less affected by pigmentary degeneration. The diameter of the spinal cord was at least one-fourth less than the average in the adult. The gray substance, from one end to the other, was severely damaged by a variety of lesions and degenerations. In all regions of the cord the nerve-cells of the anterior gray substance had undergone considerable degeneration. Some of them had wholly disappeared by gradual pigmentary wasting, or by falling into heaps of granules. Of those that remained, the processes were either lost or reduced considerably in size.

ART. 14.—*On the Changes which take place in Muscular Tissue after Section of Nerves.*

By Drs. G. BIZZAZERO and C. GOLGI.

(*Medizinische Jahrbücher*, Heft 1, 1873.)

"It has already been proved by the researches of Montegazza and Vulpian that muscles undergo appreciable changes when they are removed from the influences of nerves. Montegazza has shown that, when the sciatic and crural nerves are divided there will be, in addition to serious changes in the bones, cartilages, etc., diminution of the transverse diameter of muscular fibre, multiplication of the nuclei of the muscle corpuscles, and an increase of the interstitial connective tissue. In one instance, in which the experiment was carried on for several months, abundant fat, partly in cells and partly as free granules, were observed here and there between the fibres.

¹ Read at a meeting of the Royal Medical and Chirurgical Society, Nov. 12, 1872.

"The following changes were observed by Vulpian in the muscles of the lower extremity after section of the sciatic nerve, in the muscles of the tongue after division of the hypoglossal and lingualis, and in the muscles of the face after division of the portio dura; diminution in the thickness of the muscular fibres, partial absence of the muscular substance, proliferation of nuclei, increase of the interstitial connective tissue, and finally, the presence of a larger or smaller amount of oil vesicles.

"Fasce and Erb, who subsequently instituted similar researches, confirmed the above-mentioned results concerning these changes in muscle.

"In some researches instituted with other objects we obtained by chance preparations in which were seen a disappearance of muscular tissue, sometimes partial, at others complete, resulting from section of nerves. This condition was met with in muscles which seemed to be much thickened, in consequence of the substitution of fat for muscular tissue.

"On January 10, 1870, we cut out from the right sciatic nerve of a rabbit, six months old, a piece about one centimetre in length. The corresponding tibio-tarsal joint gradually thickened, and between four and five weeks after the operation, an ulcer appeared on the posterior surface of this region. During this time the lymph glands became enlarged. The animal still remained vigorous, and on August 20, 1870, we excised a portion of the crural nerve of the same extremity. Until the 9th November the animal remained healthy. In December the above-mentioned ulcer increased much in size and presented an unhealthy and hemorrhagic appearance; in consequence of this the animal rapidly sank.

"On December 12th, the day of the animal's death, the following appearances were found in its body:—

"The animal was much emaciated throughout; corresponding to the tibio-tarsal joint of the right side was a large and unhealthy-looking ulcer, at the bottom of which could be felt the articular portions of the tibia and astragalus rough and thickened. The connective tissue of the whole extremity was infiltrated with serum; under the ulcerated skin of the limb were collected, here and there, caseous masses inclosed in a thin capsule of connective tissue. The stumps of the divided nerve were separated from each other. The superficial muscles of the thigh were pale red, and the deep muscles, on the other hand, of a yellowish color. The superficial muscles of the leg were grayish-red and at some parts yellow; they felt rather hard, and could be readily torn. The deep muscles of the leg were thickened, and yellow in color throughout; the cut surfaces were smooth and apparently lardaceous.

"Microscopical investigation showed in the superficial muscles of the thigh isolated rows of fat granules, which seemed to correspond to the course of the nerve fibres. In the deep-seated muscles of the thigh the muscular fibres were found attenuated here and there, the transverse striæ were not well marked, and between the muscular bundles of the first and second order were seen numerous large zones of fat cells. At other parts the muscular substance of single fibres was partly torn in pieces, and partly replaced by fat cells.

"The superficial muscles of the leg presented very markedly those appearances which are generally represented as the result of section of nerves; that is to say, multiplication of the nuclei of the muscle corpuscles, withering of the fibres, increase of the interstitial connective tissue, and a profuse deposit of fat cells between the muscular fibres.

"In the deep-seated muscles of the lower extremity, which were yellow and lardaceous, no traces of muscular tissue could be found; it seemed to have been converted into fatty tissue, which resembled that of the panniculus adiposus. On transversal section the fat cells presented round or irregular margins, and were arranged as in a mosaic. On longitudinal section they were seen to be arranged in rows corresponding in direction to the fibres and muscles.

"In other investigations of shorter duration we met with fat cells only between the larger bundles. In one case, which had been observed for two months only, the fat cells were scattered between the bundles. In one case, observed for four months, we failed to find any trace of fatty deposit.

"These observations appear to us to be of some importance, as they indicate

the causes of certain varieties in diseased conditions, as, for instance, pseudo-hypertrophic paralysis, in the advanced stages of which the muscular fibres are found separated by fatty tissue, whilst in the earlier stages, as has recently been observed, merely hypertrophy of the interstitial connective tissue is evident."

ART. 15.—*Periods of Infection in Epidemic Diseases.*¹

By WILLIAM SQUIRE, M.R.C.P.

(*British Medical Journal*, April 26.)

Dividing epidemic diseases into two classes as their period of incubation was long or short, taking smallpox as the type of the one, and scarlet fever of the other, Dr. Squire proceeded to show that in the former class the interval between the reception of the poison and its infectious reproduction consisted of a latent stage, which was in most instances variable, and a stage of invasion nearly constant for each disease. In this latter part certain initial processes of the disease were accomplished, producing infection some time before the ordinary signs of the disease appeared, though not without signs of warning, the most constant one being a rise of temperature. Where a disease could be inoculated the variable latent stage was reduced to a minimum; yet in smallpox eight days were then requisite for the necessary steps of the disease, and, so far as had been ascertained, four days more when taken by infectious inhalation, so that it seemed to be impossible for the illness to appear in less than twelve days from infection. It was not likely that for the first week or ten days after exposure a person had himself become infectious, but facts were adduced to show that infection was set up certainly two days before the eruption of smallpox. The interval might not be attended with danger to those around, but it was most important to know what that interval might be for each special disease, so as to guard against an apparently healthy person setting up that disease elsewhere, so that a reasonable watchfulness should be observed until that time was over. A fortnight might be taken to indicate generally this interval for the first class of diseases, nor would they appear in less than eight days; whereas, for the second class, eight days would generally be a sufficient precautionary interval, and many of them might appear in a much shorter time. The eruption of smallpox appeared nearly a fortnight after infection. This time must also be allowed for measles, though it would generally appear in less. Of forty cases detailed by the author more than half showed the eruption from ten to twelve or fourteen days after exposure; in one it appeared in eight days, and in one after fifteen days from a definite exposure. Four other cases from sources of infection indefinitely prolonged appeared at fifteen, seventeen, and eighteen days; and one at an interval of two months from the original outbreak, infection remaining in the dwelling. Many of the cases of measles showed that it was only in the catarrhal stage, the so-called sickening for measles, that infection was spread. At a day-school a boy was kept in the class-room because he was dull with his lessons. Next day he was not well enough to come to school. The third day he had the rash of measles, and several of the boys in his class had measles within a fortnight. A visitor slept two nights with a little girl, and left with slight signs of a cold, which two days afterwards were found to indicate measles. Ten days after the visitor left the little girl had measles, necessarily communicated two, and possibly three, days before the appearance of the rash. On the outbreak of measles in a family it was too late to expect to prevent its spread to others if they had been with those sickening until the rash appeared. Cases were given where, on bringing children home at the height of the rash, and keeping them separated from other children in the house for three weeks, none of them took measles. Careful observation of the course of vaccination showed an analogy with the early stages of other diseases of the class, and a very close resemblance to what is seen in measles. The sudden

¹ Read at a Meeting of the Epidemiological Society, February 12th.

febrile disturbance on the eighth or ninth day, with its sudden subsidence in the one case, was exactly parallel to what occurred on the throwing out of the rash in the other, so that in both the more characteristic part of the ailment was more nearly the end than the beginning of it. Though infection might begin in diseases of this class before the more prominent signs of the disease were declared, yet it did not persist so long as in some diseases of the other division. In scarlet fever instances were given where infection was communicated by personal contact sixty-six and seventy days from the commencement of the complaint, or from six to seven weeks after the special illness was over, while in measles it was generally sufficient to allow three weeks after it for infection to clear off; and mumps, as if in compensation for its long incubation period, seemed to be free from infection a fortnight after the disappearance of the last signs of the disease. Whooping-cough, though its affinities were with diseases of the second class, and like scarlet fever, continued to be infectious for two months, had the dangers of the first class in being infectious long before its most characteristic sign, the whoop, appeared. Its incubation-period was shown to be often nearly a week, but as its earlier symptoms were obscure, at least a fortnight must be allowed in this affection before a child who had been exposed to infection could be said to have escaped taking the complaint, and the danger of conveying it to others. The infection of whooping-cough could be conveyed, but seemed to be more diffusible, and not to cling so persistently to persons and things as that of scarlet fever. A frequent source of infection was in a person who, having had the disease once, and being thought to be safe from a second attack, takes the complaint again in a mild form, and gives it to others who may be susceptible of its worst effects. So it was not always safe in schools and families to admit a child who is said to have had whooping-cough from a house where others were ill with it. Where children had taken the infection of measles and mumps, or of measles and whooping-cough together, the measles appeared first, mumps ten days after, and whooping-cough after two or three weeks. For several days of the measles that disease only was communicated, a sort of clinical analysis of these diseases often being performed for us. An important point noticed in most of the instances given was that those most in contact with the sick, whether in the same class, the same room, or same part of the room, took the infection more readily than those kept more apart; so that in a large well-ventilated school-room it might be possible to limit very much the spread of these diseases. Compulsory attendance at school might be a necessity. Whooping-cough in a family where the children were very young was an evil most important to avoid. Separate beds for children, and well-ventilated bedrooms, lessened the severity of those ailments where they did not prevent them. Typhus continued to be infectious longer after it was over than typhoid. Extreme instances were given of variation of incubation in the latter. As infection was longer after inhalation than after the inoculation of some of the poisons, the question was raised whether it might not be still further delayed after deglutition or imbibition.

ART. 16.—*On the Nature of Erysipelas, and its Relations to Infectious Maladies.*

By M. RAYNAUD.

(*Gazette Hebdomadaire*, No. 11, 1873.)

The following remarks were made in the course of a discussion on facial erysipelas, in the Medical Society of the Hospitals, Paris:—

It is necessary, in the first place, to determine whether erysipelas be a pathological unity, always identical with itself, or whether, under this title, a number of different affections has not been confounded. Are there not really several kinds of erysipelas, resembling one another in their external aspect, but differing in the causes to which they owe their origin?

That erysipelas is inflammatory in its nature is undoubted; that this inflammation is seated in the skin cannot be denied. In what elements of the skin,

then, does the inflammation reside? This is one of the points that require elucidation. M. Raynaud does not hesitate to place the inflammation in the superficial lymphatic network. But is there nothing more here than inflammation pure and simple? Some surgeons hold that there is, and physicians feel bound to acknowledge that there is, in erysipelas of the face, a specific element which brings this disease within the large class of pyrexia. It cannot, however, be assimilated to an eruptive fever because it does not follow an invariable cyclical course, and, on the other hand, erysipelas is a malady which very readily relapses, whilst the eruptive fevers, when once they have occurred in an individual, create immunity for the future. Still the appearance of facial erysipelas in an epidemic form, its occasional contagious character, the rapid generalization of the symptoms, the intensity of the febrile movement, the ready occurrence of delirium, the hyperæmic lesions of the majority of the viscera, the existence of disseminated metastatic abscesses, etc.—all these characters point incontestably to a specific element, such as is supposed to be present in the pyrexia.

For the presence of facial erysipelas two things are necessary—the inflammatory element and the specific element; if the latter be absent, one has to deal, not with erysipelas, but with a phlegmasia pure and simple of the lymphatic network; in fact with angeiolecitis.

M. Raynaud is convinced that angeiolecitis occurs as frequently in the face as it can do in other regions of the body, and that this facial angeiolecitis, quite a local malady and consecutive to a wound, an excoriation, or an impetiginous crust, is of very frequent occurrence, and is then often considered as true erysipelas of the face. This explains why erysipelas of the face so often attacks scrofulous individuals, who are specially disposed to inflammations of the lymphatic system. But if, in these, the erysipelas soon ceases, as has been remarked by M. Vidal, it is because one has had to deal with a pseudo-erysipelas, a simple angeiolecitis, a malady which is local and has nothing of the specificity of true erysipelas. The same may be said of those relapsing attacks of erysipelas with which some young women are affected at menstrual epochs, of those patches of livid redness which circumscribe some groups of smallpox pustules, of the red patches which spread over the sacral region, in typhoid fever, and of the inflammations produced around punctures made on the inferior limbs of oedematous subjects. In all these instances one has to deal with angeiolecitis, and not with erysipelas.

True erysipelas has, in an immense majority of cases, an injury for its starting point; this may be a superficial and more or less microscopic wound. The exceptions to this rule are very few in number, and in those one may be allowed to suspect errors of observation. A wound is given, things pass as if an infecting germ had penetrated through this open door and produced an inflammation of the lymphatic networks, and an irritation prolonged to the corresponding lymphatic glands.

But some one will say, if, from an anatomical point of view, the infecting agent produces but angeiolecitis, how can we explain that famous classical margin which constitutes almost a pathognomonic sign of erysipelas? M. Raynaud answers that there is some exaggeration in attributing so much value to this margin; that if this exists in erysipelas and not in simple angeiolecitis it is because erysipelas advances in patches, occupying groups or departments of lymphatic capillaries collected into network around trunks of a more or less considerable size; at the period when a district is about to be attacked the erysipelatos patch forms a projection, the convexity of which is marked by the margin in question. In ordinary lymphangitis the inflammation extends rapidly, and attacks at once several groups of lymphatics.

Besides, erysipelas is not the only variety of angeiolecitis in which a well-marked margin is met with. The lesions following a punctured dissecting wound present, two or three days after the accident, solid œdema, circumscribed redness of the integument, and glandular engorgement, signs which might induce one to imagine erysipelas, if the initial cause were not known, which permit precision of the diagnosis. On the other hand, in acute glanders the face acquires an erysipelatos aspect, which in the first days might lead one to con-

clude that a veritable erysipelas was present. M. Raynaud quotes a case which was under M. Hérard. This was regarded by almost every one as a case of facial erysipelas. M. Hérard alone diagnosed glanders from a discharge from the nose and from the occupation of the patient, who was a groom. All these examples prove that the lymphatics, like the other systems of the economy, have not an indefinite number of modes of reaction. Whenever specifically irritated, whatever be in other respects the agent of irritation, they inflame in an identical manner, and it is only by knowledge of the pathogenic process that one may determine the particular nature of the inflammation.

In regarding the penetration of an infecting germ under the epidermis as the cause of phenomena similar to those of erysipelas, one cannot refuse to admit that this latter affection is due to some cause of the same order. But what is the specific agent that produces erysipelas? This has hitherto been a very obscure question. It should be remarked that erysipelas in an epidemic condition is always developed in the midst of other epidemics, amongst diseases caused by overcrowding, in military practice and also in adjacent civil practice, when purulent infection predominates, and at the time of some puerperal epidemic: in short, erysipelas of the face occurs not as a primary epidemic condition, but as a secondary epidemic condition. Does not umbilical erysipelas of the newborn child always coincide with puerperal fever in the Maternity Institution? The severity of this erysipelas is due to the fact that it recognizes as its cause the specific infecting agent which presides over puerperal affections. Epidemics of erysipelas of the face may coincide also with those of purulent ophthalmia, of ulcero-membranous stomatitis, of hospital gangrene, of dysentery, of camp and typhoid fever, and even of colic.

The opinion of M. Raynaud in brief is this, that a specific agent capable of penetrating directly into the blood, or of being absorbed by the respiratory passages, and of producing the above-mentioned infectious maladies, may produce erysipelas when it penetrates into the economy by a traumatism affecting the lymphatic vessels. The morbid agent is the same, but the gate of entry differs. Certainly all this is hypothesis, but with this hypothesis one may explain why the erysipelas is generally less severe than the corresponding infectious malady. Evidently erysipelas of the face is less dangerous than purulent infection ravaging a surgical ward; spontaneous erysipelas is likewise less formidable than surgical erysipelas, because in this latter affection, the infecting agent, instead of penetrating only by some lymphatic vessels, finds numerous lymphatic vessels and also veins open and exposed at the surface of the wound. In spontaneous erysipelas, the infecting agent reaches in its course lymphatic glands which oppose to it an insurmountable or at least a modifying barrier, and so arresting the infection, give time to the organism to react in an efficacious manner.

That erysipelas has a very marked predilection for the face, and that it runs its course in a very benign manner, is because this region is covered by fine skin which is very subject to excoriations, always uncovered and thus more exposed to the direct influences of infectious agents.

With regard to the contagion of erysipelas, such as is shown habitually in hospital practice, and especially in surgical wards, this may be explained by the medium in which the affection is developed; this is not contagion but infection. This is not a denial that there may be veritable contagion in certain forms of erysipelas.

It is necessary then to continue to maintain the unity of erysipelas from the point of view of anatomy and of pathological physiology, but it is conformable to observation to admit multiplicity from the point of view of etiology and, consequently, of its intimate nature.

With regard to the local treatment of erysipelas, M. Raynaud has very little confidence. The barriers of collodion are quite illusory in the arrest of erysipelas, and he has been able quite recently to prove their inefficacy. Blistering is of great value but it is necessary to apply it, according to Dupuytren's method, to the very centre of the erysipelatous patch; artificial irritation thus treated may advantageously modify the primary condition, and so serve as an application of the substitutive method.

ART. 17.—*On the Pathological Anatomy of Acute Yellow Atrophy of the Liver.*

By Prof. ZENKER.

(*Deutsches Archiv für klinische Medicin*, 1, 2, 1872; *Schmidt's Jahrbücher*, No. 10, 1873.)

Notwithstanding the abundant material which has been accumulated on this subject since the contributions of Rokitsansky, no uniformity as yet prevails in the conception of this disease; even the post-mortem appearances are differently described. Zenker has directed his attention to this part of the subject, and has attempted in this contribution to establish the most important anatomical conditions, and to obtain a firm basis for further discussion; his main object being to restore to their position earlier views, in opposition to the erroneous conceptions of many recent authors.

The author has investigated twelve cases of acute yellow atrophy of the liver. Two post-mortem appearances above all others may be found in the liver; two different conditions of the hepatic parenchyma may be observed, either through the capsule of the atrophied organ or on its cut surface; in one the parenchyma is of gum-yellow color and soft, does not present any lobular markings, and projects on section of the organ; in the other condition the parenchyma is of a dark red color and smooth, firm, and tough on section. Zenker describes these as the *yellow* and the *red substance*. In Rokitsansky's first delineation the latter substance is wanting, and undoubtedly cases occur in which the whole liver presents the character of the yellow substance, a condition which, if Zenker's views be accepted, may be understood without difficulty. According to the author, the course of the changes in the liver is as follows: there exist in the first place intense hepatic icterus and at the same time, in the great majority of cases, excessive fatty infiltrations of the hepatic cells; these break down, and the detritus thus formed is rapidly absorbed so that no trace of the cellular hepatic parenchyma remains. Accordingly the different colored substances represent different stages of the same process, the red representing the highest degree of the atrophy, and thus likely to be wanting in cases where death occurs before this stage has been reached. This red substance, though observed by Oppolzer, Klebs, Fleischl, and other observers, and probably by Bright, is not alluded to in widely-spread handbooks on pathological anatomy and clinical medicine. Klebs, who gives a close description of this red change and indicates it as red atrophy, does not regard it as a subsequent stage of yellow atrophy, but is inclined to consider it as a special morbid form. Against contrary opinion and in support of his own views, Zenker brings forward the following facts:—

1. The frequent presence of the red substance in livers, which after death, with well-marked clinical appearances of severe icterus, present in parts which are not occupied by this red substance the characteristic anatomical appearances of the yellow atrophy, and to such an extent that the amount of yellow substance exceeds that of the red. This condition, according to Zenker, would have escaped the observation of those only who by chance have met with none save very extreme cases.

2. A condition of the liver presenting a similar red substance, and with an acute origin, has never been found in any case in which on the one hand death did not occur after symptoms of severe icterus, and on the other the liver did not contain small portions at least of the yellow soft substance.

3. The interdependence of the yellow and the red substance is evidenced by the disposition of the substances side by side, in cases where both are present in considerable quantities, and also by the microscopical relations; at first, small red deposits are formed in the midst of the yellow substance, which deposits gradually run together, and finally supplant the yellow substance (the whole of the left lobe of the liver is frequently converted into red substance).

The author's views are most readily supported by the results of microscopical investigations. With regard to the origin of the yellow substance, the

breaking down of the liver-cells is unanimously conceded as the main point. The detritus resulting from this destruction of cells forms large accumulations and causes the removal of all other structural elements. To this detritus Zenker, in opposition to other authors, attributes the extreme fatty character of the liver contents observed in the majority of cases; where the cells are still maintained, drops of oil may be seen lying within the changed protoplasm. Instances in which the amount of contained fat is small are rare. In a post-mortem examination of a pregnant woman who died fourteen days after the first appearance of icterus, Dr. Zenker found that some of the liver-cells had been preserved, and that each of these was distended with a pale finely-granular mass and contained but very few oil-drops (in this case the red substance was wanting). In the yellow substance, so long as the liver-cells are preserved, these structures, otherwise than the stroma bearing the fatty detritus, have an intense icteroid hue. Finally, yellow flakes appear in the parenchyma and yellowish-red rhombic crystals with the reaction of hæmateridin, these also Zenker refers to the icterus. The microscopic investigation of the red substance shows in all cases a total loss of liver-cells; one generally sees a pale homogeneous or streaky basis substance, almost quite free from nuclei, and studded over with very fine fat molecules (never so thickly that the basis substance is concealed); of icteroid coloration there is no trace. In other instances, the basis is studded with numerous nuclei; finally, in some few cases peculiar cellular processes resembling follicular glands are found; these have been described by Waldeyer and Klebs, and they correspond to the interlobular gall passages pointed out by Hering, which are no longer provided with proper epithelium. These cellular masses are never observed in the yellow substance. Zenker is inclined to think with Waldeyer that these follicles are indications of a commencing regenerative process.

If the whole course of yellow atrophy be considered, one should not feel justified in indicating by the name of parenchymatous hepatitis that this process is an inflammatory one. Post-mortem appearances tend to show that it is a local affection and not a general disease of which the hepatic atrophy is a local manifestation. According to Zenker's opinion it commences as a simple catarrhal jaundice; then in the jaundiced hepatic parenchyma there occur, under the influence of some unknown cause (disturbances of innervation), breaking down of the liver-cells and absorption of detritus. With this destruction of tissue coincide the symptoms which indicate yellow atrophy, which affection therefore is to be regarded as a pernicious epistrophe dependent on some unknown cause, of what was originally a simple catarrhal icterus.

ART. 18.—*On Tapping in Cirrhosis.*

By S. O. HABERSHON, M.D., F.R.C.P.

(*On the Pathology and Treatment of some Diseases of the Liver*, pp. 91, London, 1872.)

Dr. Habershon believes that the operation of tapping for the removal of the ascitic fluid in cirrhosis, if performed at an early stage of the disease, promotes recovery and saves much time, sparing the patient a long continuance of medical treatment.

It is quite true, he remarks, that at an early stage we are anxious to employ other measures less alarming to the patient; but in several instances in which it has been performed early, patients have soon recovered without the re-collection of the fluid, whereas in the later stages paracentesis is always attended with danger, for the peritoneal vessels are intensely congested, and peritonitis is easily induced. Many patients with chronic cirrhosis die a few days after tapping. Peritonitis does not in these cases produce pain, but rather typhoid exhaustion. The continued use of saline aperient waters is often attended with the greatest benefit in this form of chronic disease of the liver.

Dr. Habershon gives the case of a woman who had been suffering from the disease for altogether about eight weeks, and who subsequently, after the removal of seventeen pints of fluid, made a rapid recovery.

ART. 19.—*The Treatment of Gall-Stone.*

By S. O. HABERSHON, M.D., F.R.C.P., Physician to and Lecturer at Guy's Hospital.

(*On the Pathology and Treatment of some Diseases of the Liver*, pp. 91, London, 1872.)

The treatment of gall-stone Dr. Habershon divides into that which is calculated to relieve the paroxysm; that which lessens the jaundice; and thirdly, that which is designed to prevent the recurrence of the attack. As to the first, the intensity of the pain calls for immediate attention, and by means of the hypodermic injection of morphia and the inhalation of chloroform, we are enabled to afford considerable relief; these means are much more effective and better than the internal use of opium, which is with difficulty absorbed, and has sometimes been given in such large doses as to endanger the life of the patient. Externally hot fomentations may be applied, or, what is more effectual, the mixed chloroform liniment, belladonna liniment, and aconite liniment—half an ounce of the two first, and a drachm of the latter. If the bowels are confined, they should be acted upon by a free mercurial purgative and warm saline draught, or by an enema.

In hastening the removal of the jaundice, an unstimulating diet and gentle action on the bowels are the best means to employ; and the saline mineral waters are often of great assistance, but must be administered with caution. Alkalies may be used with advantage, not only in facilitating the discharge of inspissated bile, but in lessening duodenal irritation. It is of great importance also where other calculi are retained, and also where much irritation has been left after the passage of a calculus, that there should be no fresh source of irritation to the pyloric region of the stomach and the first portion of the duodenum. Bismuth with alkalies is of some value in diminishing this gastric sensibility; but, whilst anæsthetics and anodynes afford immediate relief, and alkalies promote recovery, a great amount of patience is required by the medical attendant, as well as by the patient, lest the disease be aggravated by over-active treatment.

ART. 20.—*The Etiology of Enteric Fever.*

By HENRY KENNEDY, M.D.

(*Medical Press and Circular.*)

At a meeting of the Medical Society of Dublin on February 12th, Dr. Henry Kennedy read a paper on the "Etiology of Enteric Fever," in which his object was to show that the cause of this specific type of fever lay more in the constitution of the individual than in the outward causes—more particularly dirt (taking this word in its widest signification), to which so much weight has been attached. He supported his views by reference to a number of well-known facts; and more especially to what occurs in typhus fever, which he observed was much more fatal amongst the middle and upper classes than amongst the lower. Yet no one ever thought of these being different fevers. Something analogous, too, he stated, might be observed in the different mortality of typhus in London and Dublin; for it was known and admitted that in the former this fever was much more fatal than amongst ourselves. The various epidemics, too, of fever presented very marked differences, as all present were probably aware. Thus, that of 1817–18 presented a marked contrast with the one of 1847–48, which some amongst us recollected well. In none of the instances could the differences be attributed to varied poisons; and the author thought there were very good grounds indeed for supposing that they were mainly due to the general state of health of the people at the time being. In the same way he looked upon enteric fever as an affection which derived its peculiar symptoms mainly from the constitution of the patients. For very many years he observed that persons

attacked with this type of fever were apt to have a fine skin, and a high complexion. They were often, too, bleary-eyed, and, if children, had spots on their head. Many cases, too, had come under his notice where there were scars on the neck, and in point of fact they were persons who, under any circumstances, would be looked on as delicate. This delicacy seemed to the author due to the strumous diathesis, and this view of the subject went far in explaining most, if not all, the peculiarities of enteric fever. The author then went on to draw attention to the hemorrhages, and duration of the disease, and dwelt at some length on the peculiar character of the lung complication, which so often showed itself in the progress of the fever. This complication not only often resembled tuberculous phthisis, but it ran, in a certain percentage of cases, into that disease. A gentleman in England, whose name he forgot, had recently detailed some cases of this kind. Besides, too, the author had himself met cases where phthisis supervened directly on the decline of the fever. But it was worthy of remark that no such occurrence had ever come under his notice in connection with typhus fever. The author then detailed a case in which the sequence of events was, firstly the establishment of phthisis in a very unequivocal form; then a lull in the symptoms for a year; then an attack of enteric fever, marked by three crops of the spots of this disease, and finally the recurrence of the symptoms of phthisis, running its course with great rapidity. He also alluded to another case, which he saw with Surgeon Rogers, where, two years before an attack of enteric fever, the patient had been threatened with phthisis, attended by pulmonary hemorrhage. The author then drew attention to the great similarity of the morbid state found in the ileum and mesenteric glands of a patient dying of enteric fever, and of one dying of phthisis. For his part he could not distinguish them. In conclusion, the author said if the view he had advanced should prove to be correct, it would have a very important bearing on the prognosis and treatment of enteric fever.

ART. 21.—*Clinical Remarks on Typhoid Fever.*

By SAMUEL WILKS, M. D., F.R.C.P., Senior Physician to Guy's Hospital.

It is sometimes very difficult to diagnose typhoid fever; for, on the one hand, it may present chiefly head, lung, or intestinal symptoms, while on the other hand, ordinary affections of these organs are often accompanied with pyrexia. It will often be found exceedingly useful in diagnosis to follow the history of the case. In fact a diagnosis may sometimes be made by reading the notes of a case when a personal examination of the patient gives only negative results. This will be found to be the case more particularly in typhoid and typhus fevers. These two diseases* may closely resemble each other in their clinical aspects, but by paying attention to their history, their mode of onset, and their course, a diagnosis may often be positively made where doubt previously existed.

ART. 22.—*On the Lesions of Chronic Dysentery.*¹

By M. CORNIL.

(*Gazette Hebdomadaire*, No. 11, 1873.)

M. Cornil found in the large intestine, beside pigmentation and swelling of the mucous membrane, more or less extensive depressions corresponding to ulcers, and more profound loss of substance. The depressions are caused by a removal of epithelium and by a more or less complete destruction of the tubular glands. The ulcers correspond to a destruction of almost the whole thickness of the mucous membrane, and sometimes involve the layer of smooth muscular fibres situated under the mucous membrane; there is also an infiltration of

¹ Communicated to the Société de Biologie, Paris.

leucocytes or white globules into the tissue of the mucous membrane, presenting the appearance of this membrane in its embryonic condition. Finally, the culs-de-sac of the tubular glands are dilated and the walls hypertrophied.

The loss of substance is presented as ovoid masses, the margins of which are flush with the internal surface of the intestine, and which form oblong, rounded, and dilated cavities situated below the smooth muscular fibres of the mucous membrane. These cavities or losses of substance have not hitherto been sufficiently described or studied. According to M. Cornil, they are formed by closed vesicles or submucous lymphatic glands.

In the first stage the closed vesicle is found swollen; there is, over a part of its contents, destruction of the reticulum, and later on its interior is found to consist of a large vesicle, the contents of which are formed of white globules, epithelial cells of various forms, inclosing vacuoles with gelatiniform contents, and finally a band of membrane folded in different directions on which one may observe a lining of cylindrical epithelium. This lining appears on the side of the ulceration of the mucous membrane, and its appearance coincides with the formation of the ulcer which constitutes the contracted orifice of the vacuole or loss of substance. Thus the loss of substance is produced at the expense of the closed vesicles or lymphatic glands, and the ulcerous wall of the vacuole thus constituted is lined in part by a cylindrical epithelium.

There is, one may say, a new formation of cylindrical epithelium within the mucous membrane, under the influence, on the one hand, of the condition of the infiltration and its softening, and of, on the other hand, the neighborhood of the hypertrophied culs-de-sac of the tubular glands. In addition there is in these cases an abundant pigmentation at the peripheries of the hepatic lobules and also pigmentation of the spleen.

ART. 23.—*On the Blister Treatment of Rheumatism.*

By THOMAS B. PEACOCK, M.D., F.R.C.P., Senior Physician to St. Thomas's Hospital.

(*British Medical Journal*, January 18.)

As the result of the analysis of the cases of rheumatism that have come under Dr. Peacock's care in St. Thomas's Hospital, he finds:—

1. That rheumatic fever is of very variable duration and intensity, and there is no certain means of ascertaining at the commencement of an attack what will be its character. The patient may at first present active symptoms, which may soon subside; or the disease may at the commencement assume a mild form, and subsequently become severe; or an attack, though never of any great intensity, may be very much prolonged.

2. The proportion of cardiac and other internal complications which obtains in any given set of cases, and which at first sight would appear to be a very fair test of the success of the different kinds of treatment adopted, is very variable, without reference to the circumstances in which the patient is placed while under care. Indeed, in a large proportion of cases, the evidences of complication are present to a greater or less degree before any treatment whatever is employed.

It is evident, Dr. Peacock says, that, for any investigation into the usefulness of different forms of treatment of rheumatic fever to lead to satisfactory results, the fallacies which would depend on three causes must be guarded against.

1. It would be necessary that the patient should be kept in bed for a day or two after his admission, before the remedy to be tested should be tried, in order that any aggravation of his symptoms which might be due to his removal to the hospital should have subsided, and that the alleviative influence of rest, warmth, and suitable food should have partly exhausted itself.

2. The cases must then be distributed into two or more classes, according to their probable severity as far as can be ascertained, and those which present any evidences of cardiac complication must also be separated from the general mass.

3. The different classes must be treated separately in a given way, the treatment adopted being precisely similar in all the cases of the same class.

Dr. Peacock has endeavored to comply with these conditions in 233 cases, and has systematically adopted the blister plan. At first he tried it only tentatively, one, two, or three blisters being applied at the same time or in succession, and in conjunction with other remedial means, and the general impression which he formed was not very favorable. Subsequently he was induced to apply the blisters much more freely, three or four, or even six, at a time, and in rapid succession a still larger number, and he has been led to form a high opinion of their usefulness when thus used, and to confirm what has been said in favor of the treatment by Dr. Davies. The blisters are generally two or three inches wide, and sufficiently long to encircle the limb. They are placed above the chief joints that are affected, and are usually put on in the afternoon of the day; in the morning, or when they have risen sufficiently, the serum is let out, and the surfaces are covered with warm linseed-meal poultices, and these are continued for several days. Sometimes there is a temporary increase of suffering when the blisters begin to draw, and the temperature rises and the patients are restless at night; but generally there is very marked amendment in the morning, both the swelling, tenderness, and pain being reduced, and the constitutional disturbance relieved. Generally with the local means, constitutional remedies, especially the bicarbonate and nitrate or tartrate of potash, are given more or less freely according to the severity of the symptoms.

. ART. 24.—*On Rheumatism; the Principles of its Treatment.*

By J. JAMES RIDGE, B.A., B.Sc., B.S., M.D., Lond.

(*Medical Times and Gazette*, Nov. 4, 1872.)

After observing that an incipient attack of rheumatism can be cut short by diluents, hot or cold, with abundant warmth and covering to the surface, or hot stimulants, or a Turkish bath, Dr. Ridge proceeds to consider the means by which acute rheumatism can be removed. The inflammatory action, he thinks, may be either checked or diverted. Nerve-excited inflammation may be checked in two ways: (1) either by reducing the nerve energy, or (2) by locally diminishing the activity of tissue oxidation.

By "reducing the nerve-energy," he means a process quite distinct from its diminution in one form through diversion into another channel. He refers to a simple decline of its intensity. The application of continuous heat, whether as simple warmth, or to such an extent as to be an irritant, acts partly in this way, having an action on the nervous system exactly opposite to that of cold. Some sedative drugs probably include in their action a directly antagonistic influence of this kind. Among such are opium, camphor, aconite, and most likely colchicum, although these can act powerfully in other ways. Nitrate of potash has a somewhat similar action on the nervous system, since it relaxes bloodvessels (so promoting the catamenia), and increases the perspiration, and depresses the pulse; it is quite a mistake to regard it as an alkali.

Another mode of checking the process is by directly retarding the oxidation of the tissues. Some of the remedies which have long been used in rheumatism partly produce their beneficial effect thus, although they have not been given with this idea at all. Dr. Ridge refers to the various vegetable salines which have been employed with the intention of rendering the blood and the secretions alkaline, and so of neutralizing the peccant poison. It is well known that in passing through the system these salts are decomposed, and form carbonates of their base: in this process a large amount of oxygen is consumed. The same amount of oxygen is consumed by the complete oxidation of—

2	grains of ammon. acet.
5	" potass. acet.
7	" potass. citr.
8	" potass. tart. acid.
	" potass. tart.

When completely oxidized, however, most of these salts form alkaline carbonates, and alkalies promote oxidation; hence, he thinks that their secondary action will neutralize, or even reverse, their primary effect, and to the extent that they accomplish this they cannot but do harm. More powerful retarders of oxidation are met with in the acids, both vegetable and mineral, as the citric and sulphuric acids, and the hydrochloric in the form of the tincture of perchloride of iron.

But the morbid process may also be arrested by diverting the excess of energy into another channel. This is the old theory of derivation, but with a more extended application and a more precise explanation. Under this head Dr. Ridge includes all those diaphoretic, diuretic, counter-irritant, and derivative measures, which form so large a proportion of our aggressive weapons. These agents either produce a change of action in the inflamed part itself, and substitute vaso-motor contraction or secretion, or they restore the normal trophic action by diverting the excess of energy to establish inflammation, organic muscular contraction, or secretion in some other part "alternatively" connected with it by its sympathetic nerve-supply. The establishment or increase of some secretion is the method most often adopted, and to this end opium, camphor, ipecacuanha, tartar emetic, colchicum, guaiacum, alkalies, salines, and some purgatives are administered, besides the application, either locally or generally, of warmth and moisture. Secondly, we may promote vaso-motor action by means of quinine, digitalis, and ergot: the first of these remedies is largely used abroad in this complaint. Thirdly, the use of counter-irritants is widely spread, and their value unquestionable. In addition to their irritant action, they tend to reverse the primary action of the cold by their warmth and moisture, and they should be carefully followed up with constant warmth, in order to preserve the unsettled nerve-territories from fresh disturbance. The use of stimulating embrocations frequently relieves the pain, and is often associated with some swelling of the part to which they are applied; and it is not without significance that, when oedema occurs spontaneously, the pain is often greatly alleviated. The (so-called) counter-irritation of the bowels is usually rather a process of counter-secretion, imitating the natural alternation by which nasal catarrh or bronchitis often subsides.

In chronic rheumatism, the direction of more than its proper share of nerve-force into one channel, and the expenditure of extra stimuli in the same way, have become confirmed by the influence of habit. It is consequently more difficult to divert it, or restore equilibrium, and it is more likely to revert to its old course. It is only by the long-continued influence and persevering application of the less energetic alternative remedies that we can hope to effect a permanent change in the distribution of energy. And while we promote secretion we must carefully avoid the reduction of the general power, but rather adopt also such measures as will give tone to the system, lest we render it generally more susceptible to morbid influences.

The means useful for the purpose of diminishing susceptibility are such as promote the general health, and preserve the due balance of all secretions. There are also those which diminish the morbid power of some particular exposure. Among these latter warm clothing is universally approved of. Anointment with oil is also a very useful measure, apparently diminishing the rapidity with which heat can be abstracted. Dr. Ridge specially notices three plans which seem to confirm the views he has been advocating. The liability to take cold in any form is diminished by exercise during the exposure, or by a previous full dose of quinine or of opium. He attributes this to the fact that in exercise nerve-energy is being more particularly directed in certain channels—not that of inflammatory action, but rather of muscular contraction and secretion. Stimuli, therefore, besides having probably less influence upon the trophic system, are diverted—carried with the stream as it were—or, at least, unable to arrest it, and are thereby exhausted and rendered harmless. In the case of quinine we have the vaso-motor nerves thus preoccupied, and perhaps also a positive reduction of trophic energy. In the case of opium, besides diminishing metamorphosis, the secretory system is stimulated to activity.

ART. 25.—*Report of a Case of Acute Rheumatic Fever ; Pericarditis ; Expected Necessity for Tapping the Pericardium ; Recovery.*¹

By JOHN W. OGLE, M.D.

(*The Lancet*, May 3.)

The patient, aged thirty-four, had had rheumatic fever fourteen days, but had been worse five days before admission into St. George's Hospital. On admission, there was a soft systolic bruit at the base of the heart, whose action was increased. The pulse was 110, and the temperature 103° F. He was treated with salines, and on the next day the respiration was 46 per minute. Leeches were subsequently applied to the cardiac region, but a decided pericardial to and fro friction sound was established. Four days after admission the respiration was very hurried; the cardiac dulness was greatly increased, uninfluenced by change of position; friction-sounds were absent, and the natural heart-sounds very indistinct. Ten days after admission increased distress, cough, or orthopnea, and physical signs showed that greater effusion in the pericardium had occurred, but the joints had become much less affected. The temperature on this day was only 98°. More leeches were applied and opium given, and subsequently digitalis and squill given in addition to other remedies. No good followed, but effusion with bulging of præcordia became greater, and the respiration rose to 60 per minute. At this time the operation of tapping the pericardium was contemplated, and the area of cardiac dulness reached a measurement of six inches by seven inches. Blistering the pericardial region brought relief, and by degrees the effusion gave way; and eventually the patient, though suffering slight relapse both of the pericardial trouble and the joint affection, quite recovered. The description of the case was accompanied by careful registration of the morning and evening daily temperature, and state of pulse and respiration. Dr. Ogle remarked that as the rheumatic pain subsided, the temperature of the body diminished in spite of the setting in of the graver pericardial symptoms. This absence of increased temperature in pericarditis had been noticed by Wunderlich, and also by Dr. Russell, of Birmingham. Dr. Ogle had found in other cases of pericarditis and inflammation of serous membranes how little the temperature was apt to rise. He also alluded to the good which, in the above case, followed the blistering; and after showing that diagnosis clearly excluded all other causes of the general and physical signs except effusion in the pericardium, he dwelt on the necessity which a continuance or increase of symptoms would have occasioned for letting out the fluid artificially, advocating the new mode of withdrawing fluid by means of the aspirator and fine needle trocar. Dr. Ogle sought the opinion of the Society on this matter, quoting cases in which it had been used. After referring to the history of the operation as given by Trousseau, Allbutt, etc., he alluded in detail to the only seven cases in which paracentesis of the pericardium had been performed in Great Britain, quoting the discussion which had taken place on the subject at the Edinburgh Medico-Chirurgical Society apropos of a case brought forward by Dr. Maclaren last year. At the previous meeting of the Clinical Society, when this communication was expected to be read, Dr. Ogle exhibited two varieties of pneumatic aspirators or suction apparatus, which he thought would succeed better than the ordinary trocar which had been used for paracentesis of the pericardium. Of these, one was a modification of Dieulafoy's, made by Weiss: the other, which Dr. Ogle preferred, as being more simple, manageable, and portable, was made by Hawksley, and consisted of a small brass syringe, which could by a cock be adapted to a bottle of any capacity, and an elastic tube to be also attached to the bottle, furnished with a capillary or other trocar. When used, the air was drawn out of the bottle, and the trocar having been introduced into the cavity containing the fluid to be drawn off, the

¹ Read at a Meeting of the Clinical Society of London, March 28th.

fluid was sucked out into the bottle to replace the vacuum. Dr. Ogle dwelt on the urgency of large pericardial effusions, pointing out that any medical man might at any moment be called upon to provide a remedy; and cited cases of death in which, on post-mortem examination, nothing was found but a distended pericardium which, to all appearance, might easily have been relieved during life by an operation which had never been thought of, and one which Dr. Ogle, *pace* the surgeons present, considered worthy of more confidence than it had received.

ART. 26.—*On the Relation of Gout to Uric Acid.*

By U. M. ORD, M.B., M.R.C.P.

(*St. Thomas's Hospital Reports*, vol. iii. 1872.)

The remarks contained in this paper Dr. Ord sums up as follows:—

1. Gout is a mode of decay of the whole system, marked by the deposit of urate of soda in and about the joints, and by local inflammation of a particular kind.

2. The deposit of the urate is a result of local or general disintegration, and is not to be regarded as a means of eliminating urate from the blood.

3. The local inflammations do not necessarily depend upon the deposit of urate, and the deposit is not a consequence of inflammation; at the same time it is probable that excess of urate in the blood produces irritation of tissues.

4. The local inflammation is peculiar in respect of the ease with which it is produced, of the pain by which it is attended, and of the products which are chemical rather than structural.

ART. 27.—*Treatment of Scarlet Fever.*

By T. W. EGBERT, M.D.

(*Transactions of the Pennsylvania State Medical Society and Medical Press Circular*, December 4, 1872.)

Dr. Egbert discards the idea of varieties, believing scarlet fever to be one and the same disease, in all places and under all circumstances, modified by atmospheric, hygienic, and other known and unknown influences. His treatment, from the beginning to the end of a recent epidemic, was uniform, simple, and he thinks novel to many practitioners; but he wishes the successful results to speak for themselves. He treated two hundred and seventy cases, with but a single death; and in that case his directions were reversed by the nurse, who applied hot instead of cold applications to the throat. From the incipency of the disease until the desquamation is perfect, he prescribes the following mixture:—R. Acid. muriatic., ℥j; Syr. simplicis, ℥ij; Potass. chloratis, ℥iij; Aquæ rosæ, ℥iv. Mix. Sig. Half tablespoonful every two hours. The dose designated in the above prescription would be for a child six years of age, double the amount being necessary for an adult, and smaller quantities for a younger child. Where there is much restlessness and nervous irritability he administers paregoric in sufficient quantities to soothe the patient and allay those symptoms. He never found it necessary to use gargles, probangs, or the pencil to the fauces or throat. In one case—that of a male adult, aged twenty-four, married; confined to his bed, with the characteristic scarlet blush making its appearance on the face and neck; general symptoms all present in an aggregate form; he prescribed R. Acid. muriatic., ℥ij; Syr. simplicis, ℥iij; Potass. chloratis, ℥iv; Tr. opii camph. ℥j; Aquæ rosæ ℥iv. Mix. Sig. Tablespoonful every two, three, or four hours. As to this case, he says: "This was the principal treatment until the twelfth day, when the febrile symptoms had all subsided and desquamation well advanced; with the exception of simple tonics, continued for ten days or two weeks longer, this was the entire treatment of this case, and in sixteen days from the first appearance of the blush he was at the office, attending to his ordinary business, being an

oil broker. The reader can judge of the severity of this case and the efficacy of the treatment, when I state that there were no bad sequelæ, except perfect *onychoptosis* of both hands and feet. In a few cases where there was much congestion about the fauces and throat, ulceration of uvula and fauces, and enlargement and induration of the parotid and submaxillary glands, I found it necessary to use the ice-bag, applied snugly to throat and neck until relief was obtained, which was generally in from six to twenty-four hours, being careful not to freeze parts by continuous application too long at a time."

ART. 28.—*Carbonate of Ammonia in Scarlet Fever.*

By G. J. S. CAMDEN, M.R.C.S.

(*Medical Times and Gazette*, February 1.)

Never give emetics or aperients, nor bleed, nor use leeches, nor do anything to lower the power of life, but give ammon. carb. on the very onslaught of the disease, the earlier, the better when it will cut the disease short. Mr. Camden uses it as follows: R. Ammon. carb. gr. x vel gr. xij; aquæ ʒiv, ʒvj, vel ʒviii—for 16 years and above. R. Ammon. carb. gr. viij vel gr. x; aquæ ʒiv, ʒvj, vel ʒviii—12 years to 16 years. R. Ammon. carb. gr. vj vel gr. viij; aquæ ʒiv, ʒvj, vel ʒviii—6 years to 12 years. R. Ammon. carb. gr. iv vel gr. ʒvj; aquæ ʒij vel ʒiij—4 years to 6 years. R. Ammon. carb. gr. ij vel iv; aquæ ʒj vel ij—2 years to 4 years. Unless distilled water be used it must be cold boiled rain-water filtered, the dose to be taken every two, four, or six hours, according to the severity of the throat symptoms; the quantity of water to be regulated on the same principle. The worse the throat the stronger the dose of ammonia, the smaller quantity of water, and to be given most frequently. The choking from the ammonia is instantly relieved by a small quantity of cold water, but if done without the better. If the power of life is at a low ebb, wine or a teaspoonful of brandy, and the same of water between each dose, and beware of aperients. Mr. Camden has waited five or six days. The foregoing prescriptions he sent to a lady in Ireland, who had seen the effect in eleven cases in her own house. In the original treatment in cases in which the tonsils had become gangrenous, the following was used as a gargle: R. Rad. pyrethri ʒij; aquæ ʒxvj; decoque ad ʒx et cola; adde syrup. rheados ʒij. M. Gargar sæpe utend. Of the sequelæ, should anasarca supervene, it will readily yield (with alternate doses of quinine as a tonic), to liberal doses of potass. bicarb. (Howard's) with potass. nitrat. taken in a large quantity of water.

ART. 29.—*Treatment of Scarlatinal Dropsy.*

By W. B. CHEADLE, M.D., F.R.C.P., Senior Assistant Physician to St. Mary's Hospital.

(*British Medical Journal*, Nov. 23.)

Dr. Cheadle believes that the action of digitalis in scarlatinal dropsy in children is almost invariably beneficial, given in combination with perchloride of iron. It is followed by steady increase in the quantity of urine, with a corresponding subsidence of effusion. Children bear it remarkably well; it may be given from a drachm to a drachm and a half of the infusion to a child of from two to three years old for a considerable time with perfect safety. Dr. Cheadle has frequently given much larger doses without the supervention of any serious symptoms. He mentions the infusion specially because in his experience it is a far more reliable preparation than the tincture—at any rate, as far as the diuretic action of the drug is concerned.

ART. 30.—*Remarks on Asiatic Cholera.*

By C. MACNAMARA, M.D.

(Indian Medical Gazette, Sept. 2, and Oct. 1, 1872.)

Dr. Macnamara, in an interesting paper, gives a table, prepared by his assistant, of cases of cholera under his care, which illustrates, among other things, the fact that the left side of the heart, immediately after death from cholera, is as full of blood as the right. It also illustrates, clinically, the relation between the loss of weight of a patient suffering from cholera and the amount of vomiting and purging, and seems to indicate that it is not those patients who continue to vomit and purge frequently in cholera that recover, but, on the other hand, that those who rapidly lose weight, or, in other words, who are constantly being purged, most often succumb to the disease. This table shows that the more rapid the loss of weight, the more sure the death of the patient, and that in some cases a patient, suffering from cholera, may lose as much as thirty pounds in weight in the course of a few hours.

On post-mortem examination of a case of cholera, Dr. Macnamara states: "We found the greater part of the mucous membrane lining the small intestines, covered with a glutinous, semi-opaque mucus-like matter; patches of this glutinous lining of the intestines had disappeared, leaving the deeply scarlet villous surface of the membrane exposed. On placing some of this mucus-like matter under a one-eighth of an inch object glass, I found that it consisted principally of cylindrical epithelial cells embedded in a glutinous material. These cylindrical epithelial cells, examined immediately after death, afforded us a favorable opportunity for demonstrating the formation of the 'cholera cell' of Drs. Parkes and Lewis from the cylindrical epithelium. . . . I need hardly remind the reader that Drs. Lewis and Cunningham assert that cylindrical epithelial cells are seldom to be discovered in the stools of cholera patients; and upon these observations a writer in the *Lancet* recently declared that we must abandon our ideas regarding the denuded condition of the mucous membrane in cholera being due to anything more than post-mortem changes; for, if the epithelial cells were shed during life in quantities similar to that found after death in the intestines, they must have been passed in the stool, which is not the case. I can only answer this argument by a counter-statement, to the effect that vast quantities of cylindrical epithelial cells are to be found in the stool first passed by patients suffering from cholera, but that, as the disease advances, the hyaline or cholera cells above described, and which are a production of the cylindrical epithelium in a very great measure, take the place of the cylindrical cells. It is very difficult to demonstrate this fact in cases of cholera, for, if the patient has remained in collapse for some time, the active changes in the epithelial cells cease, and beyond this we must operate on very fresh specimens, if we would satisfactorily demonstrate the changes I am about to describe in the cylindrical cells lining the small intestines. We should, therefore, if practicable, induce a condition of the mucous membrane in the lower animals, similar to that which occurs in man when suffering from cholera; and, so far as our present purpose is concerned, arsenic in poisonous doses excites changes in the intestinal epithelial cells, similar to those observed in the human subject after death from cholera. The accuracy of my statements may consequently be verified by any one accustomed to work of this description."

Dr. Macnamara's assistant has carefully noted the changes in the intestinal epithelium of a dog, poisoned by arsenic, and confirms the above statement.

In the case under consideration Dr. Macnamara says, the epithelia found in the glutinous lining of the mucous membrane showed in numerous places evidences of change similar to that observed in the dog poisoned by arsenic, but Dr. Macnamara could discover "only a few hyaline cells in this mucus-like material. On the other hand, in the fluid contents of the small intestines, multitudes of hyaline cells, with epithelia in an active stage of metamorphosis, were discovered, the truth being that the rapid formation of the cholera cells goes on

towards the free surface of the lining of the intestines, and particularly in certain spots from which the epithelial cells had been completely detached (necrosed), leaving the engorged and denuded villous coat exposed to view. The hyaline cells in cholera thus float away with the debris of the epithelia in the watery stools; and after death, or if collapse has lasted for some time before death, the extreme contraction of the dehydrated walls of the intestines detach the epithelia imbedded in the glutinous-like matter from the surface mucous membrane, and these cells are consequently found free in the intestinal canal in much larger quantities than if the case has terminated rapidly, as in the present instance, and the post-mortem been made immediately after death; nevertheless, the fact remains that a man attacked by fatal Asiatic cholera passes within a few hours from a state of health to a condition in which the entire surface of mucous membrane, from mouth to anus, is involved in changes such as I have described in this case.

ART. 31.—*On the Influence of Epidemics of Fever in Checking the Advance of Cholera.*¹

By Inspector-General LAWSON, President of the Epidemiological Society of London.

(*The Medical Press and Circular*, May 22, 1872.)

This was defined thus: When a cholera epidemic approached a district in which fever was epidemic, cholera did not become general and frequent within the fever field until the epidemic force of the latter was broken, and *vice versa*, fever, as an epidemic, did not penetrate a cholera field until the epidemic force of that gave way. Sporadic cases of either disease were often met with a long way within the limits of the field of the other, but they never became numerous until the epidemic force of the prevailing disease had much abated. In treating this subject, it was shown first, that as fever varied much from quarter to quarter, or ran from month to month, it was necessary to take it for periods short enough to bring out these changes, together with the concomitant differences in the frequency of cholera; secondly, as in an extensive district the diminution of fever and increase of cholera may take place at different points in succession, and occupy a considerable time from first to last; it is necessary to select areas so circumscribed as to present this change nearly at the same time over the whole; thirdly, as it was found that enteric fever followed a different course in its increase and decline, from typhus and other fevers, and actually increased on many occasions along with cholera, it is requisite that the deaths from enteric fever be separated from those due to typhus and other fevers. To illustrate this question the deaths were taken from the quarterly returns for London for 1848-49, 1853-56, and 1865-68; and those for the principal Scotch towns for 1866 from the reports of the Registrar-General for Scotland. Up to 1868 the English returns included the deaths from all kinds of fever under the term typhus. To separate these into the two components noticed above, the admissions into the London Fever Hospital for the corresponding quarter and year were employed, and, as Dr. Murchison has shown, that the percentage of deaths on the admissions in the typhus and enteric forms was almost identical, while very few deaths occurred in the fever hospital from other forms, the total mortality of London was divided between the two in proportion to the admissions to the fever hospital. Though this method be not altogether unobjectionable, yet it is the only means available for the purpose, and it is believed it affords a fair approximation to the truth. In the Scotch towns the deaths are given under the designation of typhus, enteric, relapsing, simple continued, and infantile remittent. The typhus, relapsing, and simple continued have been taken together, also the enteric and infantile remittent. These will be indicated both for London and the Scotch towns by the terms typhus and enteric

¹ Read at a Meeting of the Epidemiological Society, May 8th.

groups respectively. It was shown, that in London in 1848, and up to the second quarter of 1849, the deaths from the typhus group were evidently above the average, and that cholera did not attain great force until the third quarter of 1849, when the mortality from this group fell below it. In 1853 the deaths from the typhus group were high the first two quarters, and they fell considerably the last two, and in the fourth there was a little cholera. In the first two quarters of 1854 the mortality from this group rose again, and cholera almost completely disappeared, but in the third quarter, when the fever mortality fell to half what it had been the previous one, a severe epidemic ensued. During the first three quarters of 1855, the typhus group caused a mortality about the mean, in the last it showed a disposition to rise, and during 1856 it remained high; at the same time cholera was prevalent in Northern Europe, but there was scarcely a trace of it in London. In 1865 and the two first quarters of 1866, the typhus group of fevers caused a mortality varying considerably, but in every quarter above the mean; in the last two quarters of 1866, this fell slightly below the mean, and was accompanied by the mildest epidemic of cholera experienced in this country. During 1867, and first two quarters of 1868, the typhus group fluctuated about the mean, but in the third, and still more in the fourth quarter of the latter year, the mortality from it increased; in 1867 there had been a considerable epidemic of cholera on the shores of the Mediterranean and in the south of Europe, which was to have been expected in this country in 1868; that year, it will be remembered, there was an unusual number of sporadic cases of malignant cholera in this country, but the disease never attained the development of an epidemic. In Scotland in 1866, cholera prevailed chiefly along the east coast from Edinburgh to Aberdeen; at Perth it was rather less severe, and at Glasgow, Paisley, and Greenock the mortality was very small. At all it attained its chief development in the fourth quarter. The typhus group of fever had been very prevalent in most of the Scotch towns in 1865, and continued so into 1866. In Edinburgh, Dundee, Aberdeen, and Perth it fell considerably towards the fourth quarter; in Leith there was a slight rise in the latter; in Glasgow and Paisley the mortality from this group fell to the third quarter, but then increased again, and at Greenock the rise proceeded quarter by quarter, until it reached the annual ratio of 25.4 in the fourth. Here, as in London, cholera became prevalent along the east coast only when fever had been much reduced, and in Glasgow, Paisley, and Greenock with a higher mortality from fever, and an increase of the rate in the last quarter, the cholera was experienced very slightly.

ART. 32.—*The Treatment of Smallpox.*

By ROBERT H. BAKEWELL, M.D.

(*The Pathology and Treatment of Smallpox*, pp. 49. London, 1873.)

In cases of simple discrete, or of mild semi-confluent smallpox, Dr. Bakewell leaves the patient to nature. In severe cases, in the stage of primary fever he applies leeches to the temples, gives diaphoretics, packing in the wet-sheet two or three times a day. The pain and fever caused by the eruption may be relieved by warm fomentations. Poultices to the face and other parts are of great service. As soon as the varioles become prominent they should be pricked with a needle and bathed. To prevent pitting the face should be kept constantly poulticed; charcoal is the best. The soles of the feet and palms of the hands should be carefully looked to. During the primary fever the diet should consist of slops, the bowels should be kept open, and opiates administered, sleep being of the utmost importance to the patients. About the fourth or fifth day of the eruption, bark combined with opium should be given, and a more nourishing diet, with egg-flip and a little wine or brandy.

ART. 33.—*Smallpox Imported into Iceland by French Fishing Vessels, Stamped out by Quarantine and Sulphurous Fumigations.*

By J. HJALTELIN, M.D., Chevalier of the Legion of Honor; Knight of the Order Dannebrog, etc.; Chief Physician in Iceland.

(*British Medical Journal*, November 4, 1872.)

In the middle of April last four French fishing vessels came into the harbor of Reykjavik, with three men on board with confluent variola.

Vaccination and revaccination were immediately instituted, with as much speed as was possible, throughout the whole country. A quarantine hospital was erected in the neighborhood of the town—an old large house, situated about half an English mile from the town. The hospital was fitted with beds and some necessary furniture; a medical student, with some servants, were lodged in it, and they were strictly prohibited from having any intercourse or communication with people outside. Dr. Hjaltelin visited the hospital daily, and being a firm believer in the power of disinfectant and antiseptic remedies, he could not long hesitate in his plan, and resolved to try these remedies one after another. The chief question appeared to be whether he should use the oxygenating or the disoxygenating compounds of this class, but for various reasons he determined to try sulphurous acid both externally and internally: externally in the form of fumigation by burning refined sulphur in the sick rooms, and internally by giving sulphurous acid mixed with pure water. The effect was very highly encouraging, and it soon became evident that, although the patients at first had a great aversion to the fumigation, and complained of the strong and pungent sulphurous odor, they soon felt the good effects of it. At the same time they got about a drachm of the ordinary sulphurous acid internally, mixed with pure water, every third hour. The result of this treatment was very satisfactory, for not only did the eruptive fever and the heat diminish, but in the milder form of the disease the vesicles dried very quickly, leaving the skin covered with thin brown scales, which soon fell off. Out of twenty-two patients treated in this way only one died, who was brought to the hospital in a moribund state.

Dr. Hjaltelin found that the tension of the skin was very much relieved by the external use of linseed oil, mixed with one-fifth part of carbolic acid, rubbed into the surface with a soft brush. Bed-sores and secondary abscesses were treated in the same manner.

In order to protect the sight he used nitrate of silver, which he thought more sure than collodion.

Dr. Hjaltelin thinks that the use of the sulphurous acid fumigation and the sulphurous acid internally evidently mitigated the primary and secondary fevers; the heat of the body was remarkably lowered, and the thirst was quenched even when the primary and secondary fevers ran very high.

The symptoms generally following the primary and secondary fevers of smallpox—as the pains in the back and the articulations, severe headache, vomiting, ptialism, etc.—were evidently mitigated by the internal use of the sulphurous acid.

Under these measures the attack was entirely limited to the strangers, not a single inhabitant of the island being affected, though experience has shown that the Icelanders are, no less than other people of the globe, extremely liable to the smallpox contagion.

ART. 34.—*On Tertiary Inguinal Adenopathy; Gummatous Lymphangioma.*

By M. VERNEUIL.

The following remarks on M. Verneuil's case are given in the *Annales de Dermatologie et Syphiligraphie*, No. 2, 1872-73:—

M. Verneuil has given a detailed and very circumstantial report of a case which he thinks proves the existence of the lesion designated by the above title.

A poor man, aged fifty-three years, who had previously suffered from other suppurative osseous lesions, was admitted into the Lariboisière Hospital with disease of the left os calcis of twelve months' duration, and which at irregular intervals had been very painful. Some antecedents badly described by the patient induced M. Verneuil to order iodide of potassium, but as this agent was not well tolerated, its administration was discontinued. Shortly after the patient's admission a sequestrum was removed from the centre of the diseased bone. This operation, however, though a very simple one, was followed by neuralgia, which did not yield to any remedy save quinine. In consequence of a purulent infiltration at the lower part of the leg, the leg was amputated below the knee. The operation was followed by a repetition of the neuralgia, which again yielded to quinine.

The stump, notwithstanding phlegmatic and gangrenous complications, finally cicatrized, when swelling of three glands was observed in the corresponding groin. These ran together, and formed a large and painful mass in Scarpa's triangle. At the end of the following week M. Verneuil opened what he thought was a scrofulous abscess, but was surprised to see a discharge, not of pus, but of thick black serosity, mixed with blood and a very small quantity of pus. The focus did not diminish, notwithstanding two applications of Vienna paste and detersive dressings, which finally led to the development of healthy granulations. Soon, however, a very unfavorable general condition (cough, insomnia, anasarca) caused renewal of the local destruction, and besides, there appeared, at a distance of four centimetres from the wound, a hard lump, which slowly ulcerated.

M. Verneuil recognized in this solution of continuity the characters of a syphilitic ulcer, and prescribed 0.05 gramme of proto-iodide of mercury, to be taken in the morning, and one gramme of iodide of potassium to be taken at night. Neither of these remedies were tolerated for many days. The local application of tartrate of iron and potash cleansed the base of the ulcer. Debility, hectic fever, and cough made constant progress, and the patient succumbed at the time when M. Verneuil was just about to ligature the femoral artery in order to guard against the results of its giving way.

Autopsy.—No glandular enlargement was found in any other superficial region of the body. The liver was nutmeggy. The right lung presented cicatrizations and indurations, the results of extensive tuberculizations. Similar lesions were found in the left lung, associated with pneumonia at the base, partly inflammatory, partly hypostatic.

The ulcerated cavity in the groin occupied the centre of a tumor situated upon the sheath of the femoral vessels. It could be distinguished from the surrounding parts by its rosy-white color and very firm consistence. This was evidently a gummatous tumor in process of central softening. Notwithstanding its large dimensions (five centimetres by three), it had not been recognized during life on account of its deep situation. Two centimetres below that there was another, but harder and smaller, tumor found. Externally to the ulcer was another small tumor which had contracted close adhesions to the deep surface of the dermis.

On the borders of the ulcer above the crural arch and externally to the artery, and also to the inner side of the vein, were found several glands presenting the same structure as the different tumors of the thigh—that is to say, a very firm and elastic tissue of a dull white to a rosy color, and which grated under the knife. "There could be no doubt," states M. Verneuil, "that the iliac and inguinal glands were affected by gummatous productions in a condition of crudity, or of more or less advanced softening."

These conclusions, so highly original and instructive, seem to be more interesting from a doctrinal than from an etiological point of view. M. Verneuil, endeavoring to determine why the glandular engorgement in a subject who had been so long predisposed did not appear until after the extraction of the sequestrum at the amputation, assigns to this double surgical traumatism the

sole pathogenic part which can literally be attributed to it, that of a *cause of evolution* acting on a diathetic subject. It was owing to this that the lesion was a local one, and that the engorgement affected only the glands which corresponded to the diseased limb.

But was this general cause really syphilis, as M. Verneuil indicates? Doubt is favored by the following facts: The absence of precise antecedents; the previous absence, according to the patient's statement, of any other secondary or tertiary specific symptoms; the double relapse, and the improved appearance once presented by the wound under the sole influence of topical remedies. To these facts may be added the point suggested by M. Verneuil himself, that ulcers resulting from softening of gummata are early subjected to an excessive phagedenic process, as occurred in this case. "Notwithstanding these objections, we think," writes the editor of the *Annales de Dermatologie*, "from the aspect of the diseased tissues, not that the syphilitic nature of this lesion was placed beyond doubt, but that syphilis was the most likely cause of the lesion, and the case reported by M. Verneuil should be placed among those which science expects and has need of before authorizing the formation of a new class of syphilitic affections, such, for instance, as *tertiary adenopathy*."

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 35.—*On some Results of Treatment in affections of the Nervous System.*¹

By CHARLES ELAM, M.D., Assistant Physician to the National Hospital for the Paralyzed and Epileptic.

(*The Lancet*, May 3.)

This paper is almost exclusively devoted to therapeutics, and subsidiarily to prognosis. It is divided into two parts: the first relates to the treatment of certain forms of brain disease; and the second to that of epilepsy, considered more as a collection of phenomena than as any distinct pathological entity.

In the first part, three cases are related where striking and unexpected benefit resulted from treatment by the bichloride of mercury.

The first case was that of a boy, aged six, who, on being brought first to the hospital, presented every appearance of being affected with an advanced organic disease of the brain—most probably of tubercular origin—characterized by imperfect paralysis, squinting, double vision, and stammering, with greatly enfeebled faculties. As it was considered that no treatment could render the case more hopeless than it appeared to be, he had prescribed half-drachm doses of the solution of bichloride of mercury, and was ordered to be kept in the recumbent position. This treatment was continued without change of any kind for two months; at the end of which time recovery was complete. There was no trace of disease, bodily or mental, to be detected.

The second case is one of a female child, aged three, presenting the aspect of perfect idiocy, with general paralysis both of upper and lower extremities, loss of speech and power of attention, with involuntary and constant passage of urine and feces. For similar reasons this case was treated like the former; and in one month the child was able to run about, to attend when spoken to, and to attempt to imitate articulate sounds when told to do so. A change in medicine was followed by an immediate and serious relapse, and the bichloride had again to be resorted to, when improvement again occurred. The child is still under treatment, but very much improved in every way.

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, April 22d.

The third case is one of subacute congestion of the brain in an adult, where treatment by the bichloride produced the most favorable results.

The second part of the paper relates to the treatment and prognosis of epilepsy, and the propositions attempted to be illustrated are as follows:—

1. That during the last five or six years our relations as a profession to epilepsy have greatly changed. Formerly this disease was considered one of the most serious and intractable that we had to contend with; whereas now, in its relation to treatment, it will compare favorably with any other forms of chronic disease.

2. That the great majority of cases receive benefit from treatment at the outset; and that a by no means small proportion appear to be cured from the first, never having another attack after the commencement of the treatment.

3. That another large section resist treatment for some time, even months or years, after the first improvement and subsequent relapse, and yet ultimately yield to it and recover; that is, the intervals are so prolonged that it amounts to a virtual cure, years elapsing without any attack.

4. That hereditary and congenital epilepsy, and also that resulting from injury to the head, are in many cases amenable to treatment, often with very great relief and indefinite prolongation of the intervals, and in some cases appearing to be entirely cured. One of these undoubted cases has been seven years without any return of the affection.

5. That the most intractable cases may be classified under three heads: (a) Those that are both congenital and hereditary; especially where there has been not only epilepsy but insanity amongst the ancestors; (b) those where there is faulty formation of the head, as want of bilateral symmetry, or, what is worse, marked deficiency in the cerebellar region; (c) those cases where the head is well proportioned, but much smaller than the natural standard, as, for instance, the occipito-frontal circumference, ranging from eighteen to nineteen inches in the adult.

These are probably the cases most rebellious of all to treatment.

Cases are related illustrative of these positions.

The treatment chiefly relied upon is founded upon the employment of the bromides of potassium and ammonium alone, or combined with ammonia, chloric ether, the alkaline carbonates and iodides, tonics, arsenic, belladonna, etc. The most important adjunct, however, in the writer's opinion is the chloral hydrate, which, when given in doses of ten to fifteen grains with the bromides, rarely fails to reduce very greatly both the number and violence of the attacks, and sometimes, even in old and hopeless cases, puts an entire stop for some weeks to the fits.

It is remarked, also, that one of the most successful of the hereditary cases was treated entirely by digitalis and iron, no bromide having been given.

ART. 36.—*On a Case of Epilepsy Consecutive to a Lesion of the Sciatic Nerve.*

(*Gazette Médicale de Paris*, No. 15, 1873.)

The *Centralblatt*, of March 15th, contains an analysis of a case which will be found very interesting by those acquainted with the researches of Dr. Brown-Séquard on the artificial production of epilepsy. It is known that section of the sciatic nerve of a guinea pig is sufficient to create the development of a convulsive affection possessing the characters of epilepsy. Cases of epilepsy consecutive to lesion of the sciatic nerve are rare, and although some have been published, the following is worthy of being put on record:—

The patient was a soldier, aged twenty-four, whose left thigh had been injured by a bullet on November 7th, 1870. The projectile, although visible, had been so deeply driven in that it could not be removed. The injury was followed by swelling of the limb and intense fever. On May 26th of the following year the patient suffered for the first time from cramp, which, however, was of short duration. From March 3d, he suffered every second or third day from convul-

sive attacks which were so violent that he fell out of bed. They lasted on an average for two hours. The wound was then cicatrized and the projectile could no longer be recognized by palpation. After a time these attacks came on less frequently and were not so severe; the health of the patient, however, still declined. Each attack was preceded by pains along the course of the sciatic nerve. From this region the pain was propagated to the left side of the pubis and then along the central column, when the patient became unconscious. On examination one could make out at the anterior portion of the thigh a cicatrix which was painful on pressure; this corresponded to the opening of entrance. Three centimetres below this cicatrix was a spot which also was very painful on pressure. At the urgent request of the patient his medical attendant, Dr. Schaeffer, endeavored on February 2d, 1872, to find the projectile. Chloroform having been administered, an incision was made between the semi-tendinous and biceps muscles, and a dissection performed as far as the nerve which was surrounded at this point by a hard cicatrix of connective tissue. The ball was not found. This operation was followed by intense fever and the formation of an abscess at the inner part of the chest; which abscess was opened. In the middle of April the two wounds were cicatrized. Early in May the patient was able to move about on crutches. From the last date up to November, when this report was written, there had been no return of the epileptic attacks.

ART. 37.—*Neuralgic Pain in the Liver.*

By S. O. HABERSHON, M.D., F.R.C.P.

(*On the Pathology and Treatment of some Diseases of the Liver*, pp. 91. London, 1872.)

Neuralgic pain in the liver may, it is stated, arise from at least three different causes:—

"First, it may be a sensation of fulness and throbbing, and of distress at the scrobiculus cordis, which is due to distension of the right side of the heart. This state is relieved by mercurials with squill and digitalis; by purgatives and by diuretics; and, in fact, by any of those means which lessen the vascular strain on the right side of the heart.

"Secondly, the pain may be situated across the epigastric region, and is due to the gastric catarrh; the food is imperfectly digested, and becomes coated with a thick envelope of mucus; and flatulent distension is the result. The pain thus produced is often most distressing to the patient; the distension of the stomach impedes the action of the diaphragm, and embarrasses to a greater degree the crippled heart. Hemorrhagic erosion may also be induced, and coffee-ground vomit. This symptom—pain—is lessened by the remedies already indicated, and also by the use of mineral acids, by nux vomica, by carbolic acid, etc., the diet being meanwhile carefully regulated.

"A third kind of pain is evidently of a neuralgic character; it is not angina pectoris, but it is abdominal; and I have noticed its locality as situated deeply behind the first part of the duodenum—severe, almost like gall-stone, but without jaundice or its other symptoms; it is not connected with the stomach, for it is not affected by food, but paroxysmal, and recurring sometimes with great regularity. The remedies we have mentioned may be used to their full extent; mercury even to the verge of salivation, digitalis till it can no longer be borne, purgatives may be used freely, and the anasarca removed by puncturing the legs; but still this severe neurosis continues; it appears to be due to exhausted nerve-function, and of those nerves of which we have already spoken. Narcotics and anodynes afford the only means we possess of palliating this distressing symptom."

ART. 38.—*On Galvanism in the Treatment of Insanity.*

By A. H. NEWTH, M.D.

(Journal of Mental Science, April.)

Dr. Newth, at Dr. Williams's request, has conducted during the past six months several experiments with the galvanic battery (Emil Stührer's) in mental diseases. He records the results of his observations, and thinks that in those cases where there seems to be a want of tone in the nervous system, the continuous electric current has in the majority of cases a most marked beneficial effect. He believes that an almost unerring guide as to whether, after a few applications, it will do good, is to notice the state of the pulse; if this increase in force and slightly in frequency, there is a great chance of the treatment being successful.

ART. 39.—*The Shower-Bath in Insanity.*

By JOHN A. CAMPBELL, M.D.

(Journal of Mental Science, January.)

The conclusions that Dr. Campbell considers himself warranted in drawing from an analysis of 118 cases are:—

That a gentle shower-bath every morning seems exceedingly useful in the treatment of certain states of the nervous system connected with mental alienation, more especially the following:—

- 1st. Puerperal mania at the dull stage.
- 2d. Hysterical mania in young girls.
- 3d. A state somewhat similar to the above, seen in boys and young men, dependent on sexual causes.
- 4th. In cases in which persistent excitement exists without organic cause.

ART. 40.—*On Cerebria.*

By CHARLES ELAM, M.D.

(Cerebria and other Diseases of the Brain, pp. 142. London, 1872.)

The diagnosis of cerebria, an acute, idiopathic, diffused inflammation of the entire substance of the brain, uncomplicated with meningitis, may be made from encephalitis and from typhus, according to Dr. Elam, by attending to the following circumstances:—

"From encephalitis it is at once distinguished by the absence of symptoms of excitement and of headache. There are none of those symptoms which are generally described as characteristic of the predominance of meningeal complication; there is not the increased heat nor rapidity of pulse, nor sensory irritability. But the pain in the head is the most certain diagnostic mark. In encephalitis there is always, in the outset at least, great and deep-seated pain. In all the cases of cerebria that I have seen, where the patient could give a clear account of the symptoms, there has been a slight headache accompanying the first vomiting, but it has passed off—at least so the patients have said, so long as they could answer coherently. My opinion is that the pain is there, but that the sensibility or consciousness of it, or power of translating it into words, is benumbed or lessened. There is often an expression of face, a frown, or other outward sign, that suggests the existence of pain when the patient utterly denies feeling any."

ART. 41.—*Lowered Temperature in Injury of the Spinal Cord.*

By Dr. NIEDEN.

(British Medical Journal, February 8.)

At a meeting of the Clinical Society of London, January 24th, Dr. Niden related a case in which excessive lowering of temperature was observed, after a lesion of the spinal cord corresponding to the first and second dorsal vertebrae. F. D., aged sixty, fell, on October 5th, about fourteen or fifteen feet on his outstretched arms; he was insensible for a short time. When brought into the hospital he could give an account of the accident. He complained of great pain across the shoulders and back, but no lesion of the spine could be detected. The lower extremities, and the trunk as high as the second intercostal space, were perfectly paralyzed to motion and sensation. The temperature in the axilla was $95^{\circ}.2$ Fahr.: pulse regular and strong, 52. Respiration was carried on only by the diaphragm, 18 per minute. The bladder was paralyzed; the urine was acid and free from albumen and sugar. His appetite was good. The treatment consisted in a horizontal position, and the application of twenty cups on the back. For some days there was no great alteration. The temperature rose at first gradually to $98^{\circ}.6$ Fahr., the pulse to 68, and the respirations were 18 per minute; but, on the morning of the third day, the temperature began to sink, so that on the morning of October 10th it was $95^{\circ}.8$ (pulse 52, resp. 16), falling gradually on October 12th, to $90^{\circ}.2$ and $87^{\circ}.9$ Fahr. (pulse 42, resp. 14). The patient was in the same good mental condition as before. On October 13th, the temperature rose again from $86^{\circ}.2$ to 87° , while the pulse became weaker and smaller (40), and the respirations were accompanied by râles. On October 14th, the temperature sank to $84^{\circ}.3$; pulse very weak (34), respirations 14. The mental faculties were quite intact; likewise the digestion. Edema in both lungs increased. During the night of October 15th the patient was conscious; temperature 81° , pulse 30. His breathing became irregular, and he expired, with a temperature of $80^{\circ}.6$ Fahr. The necropsy showed a dislocation of the first dorsal vertebra upon the second, without fracture. There was a vast ecchymosis in the dura mater. The interior of the cord was softened and transformed into a reddish pulp. The lower parts of both lungs were excessively congested and oedematous; all the other organs were normal. Dr. Niden remarked that similar sinking of temperature to $80^{\circ}.6$ Fahr. had, he believed, never been observed; but this case showed that life could be continued with a temperature of 81° Fahr. The decrease of temperature was accompanied by the same sinking of heart-contractions. Difference of temperature between different parts of the body (axilla, rectum, mouth), existed only in a small degree. Ligature showed that similar lesions of the medulla or the cervical marrow produced in one case sinking of temperature, while they were followed in another by rising of the temperature.

ART. 42.—*On Intra-Spinal Hemorrhages.*¹

By P. HAYEM.

(Archives Générales de Médecine, November, 1872.)

Hæmatorachis.—The first case of spinal meningeal hemorrhage with post-mortem demonstration, was reported by Duhamel. From the small number of reported cases which he has been able to find, Dr. Hayem concludes that hæmatorachis is a rare affection. In most instances, it was met only as an accessory manifestation of a more serious affection. Moist cold seems to be a frequent occasional cause; males seem to be more predisposed than females; it has been met with at all ages. It may be met with after an arterial or venous

¹ Thèse Présentée au Concours d'Agrégation pour la Médecine. Paris, 1872.

rupture, or after injury, in certain affections of the nervous system, especially the tetanus of infants, rheumatic tetanus, chorea, epilepsy, etc.; in yellow and typhoid fever, in certain poisonings, especially that by strychnine. The effusion may be extra-meningeal, intra-meningeal, or sub-arachnoid.

The hemorrhage most frequently is extra-meningeal. The blood may be effused into the whole extent of the space which separates the dura mater from the spinal canal. The clots vary much in size and consistence. In no report is any mention made of stratified layers indicating successive outpourings of blood. The effusion never seems to be sufficiently abundant to compress the cord.

Intra-arachnoid hemorrhages generally occupy the whole height of the medullary membrane and usually cause compression of the cord.

Sub-arachnoid hemorrhage occurs very rarely; it sometimes accompanies the preceding varieties of hæmatorachis. The details related by observers with regard to its seat are not very precise. This form of hæmatorachis is very often due to an extension of cerebral hemorrhage.

These hemorrhages often come on rapidly. One observes weakness of the limbs, contractions, and partial convulsions; sometimes generalized spasmodic shaking. Spontaneous pain has been noticed in almost every case. Death which is sometimes sudden, may not occur until after an interval of some months. In a great number of cases the symptoms of spinal hemorrhage have suddenly disappeared in the presence of those of the initial malady, tetanus, epilepsy, chorea.

With regard to diagnosis, the absence of loss of consciousness and of hemiplegic phenomena forbids the idea of a cerebral affection: the partial convulsions, the spinal and radiating pains also permit one, in the absence of encephalic phenomena, to eliminate a cerebral affection.

Hemorrhagic Pachymeningitis.—Internal pachymeningitis has been met with principally in general paralysis, alcoholism and mental alienation; external pachymeningitis in alcoholism with absinthism and in epilepsy. The pathological anatomy of this affection is not very full. Clots or masses of encysted blood, such as occur in hæmatoma of the cranial dura mater, have seldom been remarked. According to Dr. Hayem it is impossible to trace the symptomatology by means of the scanty materials which actually exist on this subject. He thinks that it is to pachymeningitis that one ought to attribute the mild form of spinal hemorrhage.

Experiments instituted by the author enabled him to verify certain facts which had been gathered from clinical reports. Having pricked an intra-spinal vein in a dog, he found that the three varieties of hæmatorachis described above were at once produced—varieties which indeed were met with simultaneously in the cases recorded. Under the same conditions cranial meningeal hemorrhage has been observed to follow hæmatorachis; finally, as in the recorded cases, the predominant symptoms were paresis and contractions.

Hemorrhage of the Cord.—According to the author hemorrhage of the cord has nothing parallel to cerebral hemorrhage; the effusion is almost always caused by inflammation of the nervous tissue, and the affection therefore may be called a *hæmatomyelitis*. Sometimes the blood is collected in a kind of anfractuous cavity, at others (and more frequently) it is mixed intimately with nervous substance. The hemorrhagic centre may vary in dimensions. It is invariably central; the white substance presenting an insurmountable barrier. In recent cases one finds a soft clot; later on a firm swelling. The walls of the cavity are jagged and present over most of their extent an ecchymotic tint. Around the principal centre one finds sometimes a red infiltration or capillary apoplexy; the form of infiltration is that which most resembles capillary apoplexy, or rather, according to the author, red softening; infiltrated, like circumscribed hemorrhages, are always central. The author was induced to conclude that one had to deal here with a *hæmatomyelitis*, and not with pure hemorrhage into the cord, by the fact that in an immense majority of cases the gray substance is disorganized over an extent out of proportion to the centre of the hemorrhage. The whole extent of the cord may be affected even when the hemorrhagic centre is not more than one centimetre in breadth; sometimes

numerous centres may be disseminated over an extent of diseased cord. In the reported cases microscopical examination seems often to have been neglected; in one case, however, communicated to the author by M. Duguet, granular corpuscles were found about the hemorrhagic centre. In cases where the disease has had a slow course one finds signs of diffuse chronic myelitis; considerable swelling of the cells of the ganglia, and of the axis cylinders, and impregnation of the cells with pigmentary deposits. M. Lionville found in the vessels capillary aneurisms analogous to those of the brain. The vessels are usually thickened; and the sheaths are enlarged, distended, and filled by yellow fatty granulations.

Among the causes of hæmatomyelitis the author mentions great fatigue and venereal excesses. In most cases, however, the cause cannot be determined.

The progress of the disease is sometimes rapid, sometimes slow.

"It," states Dr. Hayem, "the symptoms of acute and sub-acute hæmatomyelitis be compared with the different form of myelitis, a striking resemblance will be found; formication, a sensation of constriction, paralysis, absence of reflex excitability, bedsores, ammoniacal urine, ascending progress of the disease; all these symptoms may be observed."

In short, the author thinks it impossible to separate hæmatomyelitis from ordinary myelitis. There may exist in the cord as in the brain a kind of apoplectic softening, capable of producing the same symptoms as hemorrhage properly so-called, with this difference, that in the brain this form of apoplexy is associated with a sudden obliteration of arteries, whilst in the cord the process is of an inflammatory nature.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 43.—*Hypodermic Injection of Sulphate of Morphia in Autumnal Catarrh.*

By WILLIAM MOSS, M.D., Philadelphia.

(*American Journal of the Medical Sciences*, January 1.)

Dr. Moss first tried this remedy in his own case, three years ago, having previously had slight relief from the internal use of morphia, and hoping only for a few hours' respite from the miseries of a violent attack of autumnal catarrh. The relief was immediate and lasting. He has since used it in a number of cases of autumnal and June catarrh with almost invariable success. It is sometimes necessary to repeat the injection one or more times during the period of susceptibility.

ART. 44.—*Muriate of Ammonia in Bronchitis; Catarrhal Pneumonia, etc.*

(*Medical Press and Circular*, June 5.)

In obstinate acute bronchitis after the first intense stage, in catarrhal pneumonia both of children and adults, in bronchorrhœa, and also in ordinary chronic bronchitis, the editor of *New Remedies* says he has obtained more apparent good from the use of muriate of ammonia than any other remedy. Of course, other secondary measures are to be vigorously used—counter-irritants, poultices, support or diminution of food supply, etc. etc., as the case may call for. The best formula for giving the muriate is as follows: Take of ammonia muriat. ʒij; extr. glycyrrhiz. ʒj; mucil. acaciæ, aqua, ʒss fʒij.—M. S.—Tablespoonful for an adult every two hours—teaspoonful for a child a year old, every three hours.

Sometimes, however, the patients object to the mixture of sweet and salt, preferring the following: Take of ammonia muriat. ʒij; aqua, fʒvj. Dose as before.

Where the cough is very annoying, 1-20th of a grain of sulphate of morphia, or 10 to 15 minims of tincture of hyoscyamus, may be added to each dose.

In bronchorrhœa, the following may at the same time be used by inhalation twice or thrice daily: Take of sat. solution of alum, ʒvj, tr. hyoscyam. ʒss. M.

ART. 45.—Mercury in the Treatment of Bronchitic Asthma.

By JOHN C. THOROWGOOD, M.D. Lond., Assistant-Physician to the Hospital for Diseases of the Chest, Victoria Park, Physician to the West London Hospital, and Lecturer on Materia Medica at the Middlesex Hospital.

(*Medical Press and Circular*, December 18, 1872.)

Ordinary spasmodic asthma is a spasmodic neurosis of the lungs, and may, even in the most severe cases, be quite independent of any inflammatory or organic change in the pulmonary structures. Hence it is that we often get excellent cures by the employment of medicines of the nerve tonic class, such as iron, quinine, arsenic, silver, and zinc, with the occasional assistance of certain sedative preparations, such as belladonna, stramonium, datura tatula, etc.

In dealing with the complaint here called bronchitic asthma, a different plan of treatment is required, and Dr. Thorowgood believes an important medicine in real bronchitic asthma is found in mercury. To illustrate the remedial action of this drug, he appends short notes of a few cases in which mercurial treatment was employed with success.

In bronchitic asthma we have present a more or less active inflammation of the bronchial tubes, complicated with severe and trying attacks of bronchial spasm or asthma, the last being dependent on the first, so that if we cure the inflammation the attacks of spasm speedily cease.

As a general rule these cases of bronchitic asthma arise from cold. The patient is feverish at night, with perhaps some sweating, his pulse is quick, and his urine loaded with lithates. Towards dawn of day, or earlier in the night, he coughs severely, and has to sit propped up in a regular asthmatic paroxysm. There is tendency to basic congestion of lungs, with bronchial râles, and at times there may be some hæmoptysis.

Such are the cases in which a small pill of pil. hydrarg. c. pulv. scillæ, or of hydrarg. c. creta c. pulv. ipecac. et ext. conii, at bedtime or oftener, will succeed in giving great and permanent relief.

ART. 46.—The Treatment of Whooping-Cough.

By W. BERRY, L.R.C.P. and L.R.C.S. Edin.

(*Medical Times and Gazette*, Feb. 28.)

Mr. Berry has found dilute nitric acid in doses of from five to fifteen minims—according to age—with simple syrup, given every three or four hours, to alleviate the cough and spasm, and apparently cut short the disease.

ART. 47.—Treatment of Whooping-Cough with Quinine.

By Dr. DAWSON.

(*American Journal of Obstetrics*; *British Medical Journal*, May 17.)

Dr. Dawson, in a paper on this subject, says that the failure of quinine against pertussis, in the hands of others, is undoubtedly to be attributed to its administration either in large doses at long intervals, or in the form of pills. He invites the profession to give to this treatment of pertussis a careful trial, feeling convinced that, if the following rules be carefully observed, few if any will be disappointed. 1. Give the quinine (sulphate or hydrochlorate) dis-

solved by acid in pure water only; for children under three years, from 5 to 8 grains, and for older children and adults, 10 to 12 grains, to the ounce. 2. Give not less than a teaspoonful every hour, or, at the longest, every two hours, during the day, and whenever cough comes on in the night. 3. Give nothing afterwards for some minutes to destroy the taste or to wash out the mouth. 4. Continue giving it, notwithstanding the first doses may be vomited. 5. Be sure that the quinine is pure and thoroughly dissolved. He attributes the rapid cure effected by quinine, not to the simple destruction of the fungus, but also to its nauseating bitter taste. The effect of a small amount of a solution of quinine, when taken into the mouth and swallowed, is instantly, from its bitter and nauseating taste, to excite a free secretion of thin mucus from the buccal mucous membrane and the salivary glands; and this softens and renders easy of dislodgment the tenacious mucus secreted from the mucous membrane of the pharynx. The frequent repetition of the quinine keeps up this free secretion, and thus prevents the mucus from becoming tenacious and difficult of dislodgment. At each act of coughing, therefore, the accumulated mucus is readily loosened and expectorated, and unobstructed inspiration is obtained.

ART. 48.—*Treatment of Phthisis.*

By Dr. MACARIO.

(*Lyon Medical*, Dec. 22, 1872.)

Dr. Macario attributes very successful results, in the early stages of consumption, to the use of the following formula: One ounce of a salt of ammonia and of chloride of sodium, one to two grains of arsenious acid, six drachms of cherry-laurel water, seven ounces of sugar, and three ounces and a half of water—making a syrup, of which a teaspoonful is given morning and evening.

ART. 49.—*How to Prevent Paroxysmal Cough.*

By JOHN STOCKTON HOUGH, M.D., of Philadelphia.

(*American Journal of the Medical Sciences*, April.)

The writer, at the age of twenty, while a medical student, took the whooping-cough, and the abdominal tenderness occasioned by the almost incessant coughing was so severely painful that it was necessary, in addition to the usual remedies, to resort to some method to lessen the effect of the diaphragmatic succussion, or prevent the paroxysm of cough. The former was in some degree alleviated by placing the arms across the abdomen and bending the body as far forward as possible, thus making considerable compression of the abdominal walls. But this last procedure did not afford sufficient relief; and at the time of a paroxysm the fortunate discovery was made that, *by coughing out with a strong expiration, and immediately following it by a long deep inspiration through the nostrils*, succeeded by slightly hurried breathing through the nostrils alone (keeping the mouth tightly closed from the time of the first cough), the paroxysm was generally prevented—rarely coughing more than once, instead of six to twelve times, as was the case when this precaution was neglected.

This fact seems to favor the theory of reflex irritation of the fauces, from the sudden access of cold air at the gasping inspiration usually succeeding the first cough, as the cause of the paroxysm; while breathing through the nostrils allows of the air being warmed and moistened by contact with the mucous canal five or six inches in length.

ART. 50.—*On Areolar Effusions in Pleurisy.*¹

By M. MOUTARD-MARTIN.

(Gazette Hebdomadaire, No. 2, 1873.)

M. Moutard-Martin directs attention to the areolar effusions found in cases of pleurisy. It has been asserted that the areolar effusions found at autopsies are really due to post-mortem coagulation of the fibrine, which coagulation incloses the fluid in a great number of cavities more or less complete. This explanation is faulty, for areolar exudations exist clinically, as may be seen from the two following reports of cases:—

The subject of the first case was a woman, aged forty, who was admitted into the Beaujon Hospital with abundant pleuritic effusion. The first puncture gave issue to more than one litre of fluid. In a short time the fluid was reproduced. The second puncture gave exit to more fluid than was withdrawn at the first operation. Fluid was again poured out, and a third operation performed, but on this occasion the fluid came away in drops, and not more than 150 grammes was obtained. Still all the signs of a vast effusion existed. The patient succumbed to marasmus. At the autopsy the pleural cavity was found filled by a jelly-like mass in which were numerous cellular areolæ containing serosity.

In the second case, M. Moutard-Martin was called to see a gentleman suffering from pleurisy, in the treatment of which thoracentesis was found to be indispensable. The operation was performed with M. Potain's aspirator. Two litres of serous fluid were removed, and a few days after the operation the patient was doing well. Fifteen days afterwards unfavorable symptoms returned, and there were evident signs of a large effusion. A puncture was made with the medium trocar of Potain's apparatus, but the fluid passed only in drops. The trocar, however, had been forced well into a cavity which was filled with fluid. In moving the point of the trocar from side to side, M. Moutard-Martin could feel a fine crepitation and a few drops of fluid passed forcibly through the tube; he at once concluded that there was an areolar effusion, and turned his trocar in all directions in order to tear down the cellular boundaries, and so obtained a large quantity of fluid. The patient, when last seen by M. Moutard-Martin, was recovering.

ART. 51.—*On Elevation of Temperature in the Subjects of Acute Pleurisy immediately after the Operation of Thoracentesis.*²

By M. A. LABOULBENE.

(Gazette Hebdomadaire, No. 48, 1872.)

Wishing to determine the influence produced by the removal of the pleural liquid effusion on the temperature of patients suffering from acute pleurisy, the author placed a thermometer in the rectum immediately before and after the operation of thoracentesis. He found out that the temperature taken with the same instrument marked after the operation an elevation of the column by several tenths of a degree.

Six cases are cited in support of this assertion.

In order to account for the constant elevation of temperature made out in the patients from whom pleural serosity had just been removed, it is necessary to consider the condition of the respiratory organs before and after the operation. In all patients the lung surrounded by the pleural effusion can perform very little, if any, of its function in consequence of the compression to which it is submitted. Immediately after the evacuation of the fluid the air pene-

¹ Communicated to the Société des Hôpitaux, Paris.² Communicated to the Académie des Sciences, Paris.

trates into the pulmonary vesicles, as may be demonstrated by the cessation of dulness of percussion, the return of the thoracic vibrations, and the perception of the respiratory murmur on auscultation. But the organic conditions in the lung being changed by the removal of the pleural effusion, the respiration is now carried on in parts where it was previously absent. Therefore the molecular actions which do not take place in the compressed lung may be renewed as soon as the flux of blood to the lungs returns to its normal state. These new conditions suffice to explain the elevation of the bodily temperature.

ART. 52.—*Clinical Remarks on Empyema.*

By SAMUEL WILKS, M.D., F.R.C.P., Senior Physician to Guy's Hospital.

In empyema the lung of the affected side becomes contracted, condensed, and unable to expand; consequently, when the fluid in the pleural sac becomes absorbed, the chest walls gradually retract. On the healthy side the lung becomes the seat of a compensatory hypertrophy, just as one kidney enlarges if the action of the other be interfered with. The cure of a case is therefore very tedious, as time must be allowed for the recession of the firm and resisting chest wall. The walls must fall to the lungs, as the lungs cannot expand to the walls. It is impossible for the lung to expand when covered with a layer of lymph. Dr. Wilks was unable to expand a lung post-mortem by means of the bellows, in a case of pleurisy of but six weeks' duration, but when he removed the layer of lymph from the visceral pleura, expansion was readily performed. If there are no signs of absorption of the pus, it is the best treatment to make an opening into the sac, and evacuate the contents. The cavity will then gradually close, partly by the formation of granulations, but chiefly by the recession of the chest walls. Care must be exercised to prevent decomposition of the matters that collect in the sac. This is best done by washing out the cavity several times daily with some carbolic acid solution or Condy's fluid.

ART. 53.—*Cases of Empyema.*

By G. H. EVANS, M.D., M.R.C.P.

(*St. Thomas's Hospital Reports*, vol. iii., 1872.)

In this paper Dr. Evans gives notes of eight cases of empyema which presented themselves in St. Thomas's Hospital in the year 1872. Of the eight cases, five were tapped, and in four (including one that was tapped), pus was evacuated through the bronchi; of the four latter, three progressed favorably; of one, the result is doubtful; and of the five former two recovered, two died, and one is still under treatment.

ART. 54.—*Pyrexia in Phthisis Treated by Cold Baths.*

By C. THEODORE WILLIAMS, M.D.

(*British Medical Journal*, January 11.)

At a meeting of the Clinical Society, December 13, 1872, Dr. Williams brought forward three cases of pyrexia in phthisis treated by cold baths. He stated that it had been his custom for the last year and a half to have the temperature of a certain number of hospital cases taken twice or three times a day, for periods varying between a week and a fortnight before any decided treatment was attempted. In many instances pyrexia had subsided under the influence of rest, abundant food, and an equable atmosphere (60° to 63° Fahr.). In others it had persisted, and assumed a type sufficiently well marked to afford a characteristic tracing. In a third class it seemed to follow an extremely irregular course, and to be governed by no fixed laws. The second class was chosen

for experimental treatment; and Dr. Williams, having tried various drugs without marked effect, and having noted the good results of cold immersions in the hyperpyrexia of fevers and acute rheumatisms, and the cold douche practice at Görbersdorf and Davos in cases of phthisis, determined to give cool immersions a cautious trial, as, except Dr. H. Weber, no one in this country had, he believed, done so. The patients were two males and one female, aged twenty-seven, fifty-six, and twenty-five respectively, and were instances of chronic phthisis marked by a high degree of pyrexia. In two, both lungs were extensively affected, and in one of them a cavity existed. In the third, the disease was one-sided and limited. The patients were submitted to baths of about 90° Fahr., which were rapidly lowered to 70° and 65° Fahr., the time of immersion varying from thirty to forty-three minutes. The effect in every case was an immediate reduction of temperature, which continued to fall for some time after the patient's removal to bed. The reduction in one instance amounted to 6° Fahr. In all it was temporary, the temperature soon rising again; but in one case it never rose to the same height as before the bath, and in two it gradually subsided, marked improvement, general and local, taking place in the patients. In the third case, one of advanced disease with a cavity, three baths were given; and, though only a temporary fall of heat took place, great improvement in appetite, sleep, and action of the skin followed. Throughout their pyrexia, all these patients steadily gained weight; and Dr. Williams drew attention to this fact, which had been noted by himself and others, as being directly opposed to Niemeyer's doctrine on the subject. Dr. Williams asserted that the cold bath did no harm, that it improved the appetite, induced sleep, and temporary lowering of heat; but he did not urge it, except in cases of very obstinate pyrexia.

ART. 55.—*On the Various Modes of Contraction of Cavities in Phthisis, and their Results.*¹

By C. THEODORE WILLIAMS, M.D.

(*Medical Press and Circular*, February 5.)

The author commenced by observing that it was very difficult to foretell contraction of cavities, and remarked that when it took place the patient was by no means out of harm's way, for the contractile process might overstep the required bounds, and seriously obstruct respiration and circulation, causing death by dyspnea and dropsy. Moreover, fresh diseases might arise in the other lung. Contraction of cavities, according to Dr. Williams's statistics of 1000 cases, occurred in six per cent. of patients in third stage, and the void was filled in by one or other of the following means: 1st. By expansion of the lung tissue around the cicatrix. 2d. By an expansion and drawing over of the opposite lung to the affected side. 3d. By displacement of the neighboring organs, the heart, liver, stomach, and spleen. 4th. By collapse of the chest walls. Dr. Williams then dwelt upon these modes of compensation, and explained the changes which the physical signs undergo during contraction, especially the increase of resonance over the former seat of the cavity and the shifting of the cavernous sounds to the posterior regions of the chest previous to their disappearance. This was owing to contraction always taking place towards a fixed point, which was generally the root of the lung, but not necessarily so, as it might be some spot where the pleura was strongly adherent. A contracting cavity of the left lung, as a rule, caused more displacement of organs than one of the right. When the cavity was in the right lung, the liver might be raised, the left lung drawn across and the heart considerably displaced upwards, outwards, and in the direction of the axillary region, which it sometimes reached. Collapse of the chest-wall generally took place in all cases of contracted cavity, but often at a late date, the expansion of the healthy lung and the displacement of organs, particularly the abdominal, sufficing to fill the void for some

¹ Read at a Meeting of the Medical Society of London, January 13th.

time. Several cases were given to illustrate these points. The author then drew attention to the various periods required for contraction of a cavity in these cases. In some it took place in two months, in others it occupied two years, the size of the cavity being no index of its rate of contraction. The results of the process on the general health of the patient were then considered, and it was pointed out that in some patients the contractile process caused so much obstruction to the respiration and circulation as to create great and increasing dyspnoea, irregular action of the heart, and eventually death. Another termination was by albuminuria (dropsy), and the few kidneys examined after death showed signs of degeneration.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 56.—*A Study of a Case of Heart Disease, probably Malformation.*¹

By JAMES BROADBENT, M.D.

(*The Lancet*, Dec. 4, 1872.)

The patient, a young woman, aged thirty-one, who had never had acute rheumatism, or an illness of any kind, came under observation on April 7th last, having been ailing for six or seven weeks, but doing her work up to the day before her admission into hospital. She was well nourished, had a good color and facial expression; her respiration was tranquil, but she felt faint on standing, and the pulse at the wrist ranged between 120 and 130, was irregular in force and frequency, excessively small and feeble, and sometimes imperceptible. On examining the heart, the apex-beat was a little displaced outwards, the area of dulness slightly larger than normal, and extending for an inch or an inch and a half to the right of the lower sternum. The impulse was short, sharp, and like a tap; the first sound, loud and sharp, resembling an exaggerated second sound. At and near the apex the sharp first sound was alone audible. The second sound became audible as the base of the heart was approached, and had a muffled character, and it could be heard in the heart. In the third left interspace, close to the sternum, was heard a short, smooth diastolic murmur, but only over a very limited spot covered by the stethoscope. It was at first not easy to decide whether the heart affection was old or recent, but the subsequent progress left no doubt that it was old. Later, the apex-beat disappeared from the situation in which it was first felt, and the area of dulness diminished, while a vibratory impulse was perceptible in the top third interspace outwards, one inch and a half from the edge of the sternum, and more feebly below the upper sternum; a presystolic murmur ran up to the still short sharp sound within the apex. The second sound was strikingly reduplicated at the base; the diastolic murmur already mentioned was heard at the left edge of the sternum. So far as the sound went, the case resembled very much constriction of the mitral orifice, but the diastolic murmur was difficult to explain, as it was heard over too small a spot to be due to regurgitation, a supposition which was, moreover, contradicted by the reduplication of the second sound. The patient took first iron and quinine, to which, in a few days, was added infusion of digitalis. There was marked improvement in the general condition, and in the physical signs until April 19th. Ten days after admission she had congestion of both lungs, with elevated temperature and distress in breathing; the heart became greatly distended during the attack, and not only dulness, but impulse, was found to the right of the lower sternum, showing that the dilatation was chiefly of the right carotid. The sounds became audible over the entire chest, front and back. A systolic aortic murmur was also developed by the powerful action of the heart, and was not subsequently lost; the presystolic rumble at the inner side of the apex became, for a short time, a murmur, and the vibration an indistinct thrill; the

¹ Read at a Meeting of the Medical Society of London, Nov. 25th.

diastolic murmur was at one time inaudible, but it again reappeared, varying in length and intensity. With the evidence of aortic obstruction afforded by systolic aortic murmur, the extremely feeble pulse became more comprehensible, and if the murmurs alone had been taken into account, they might have been explained by mitral narrowing and aortic obstruction and incompetence. The state of walls and cavities was not, however, such as would have been induced by these valvular affections, and, as has been previously stated, there were grave objections to the supposition of regurgitation from the aorta. The pulmonary congestion was one of short duration, and the patient gradually improved, the physical signs varying somewhat. When she began to walk about, an altogether new murmur appeared, systolic in time, audible above the fourth left interspace near the edge of the sternum and over the lower end of this bone—that is, below the spot where the diastolic murmur had been heard so long. Taken alone, this might have been attributed to tricuspid regurgitation. It seemed, however, to Dr. Broadbent, that no combination of valvular affections would satisfactorily account for the whole of the facts of this case; while a congenital malformation, which has been occasionally found without cyanosis, and has permitted of survival to adult age, might explain more or less perfectly all the phenomena. This malformation consists in narrowing of the aorta, together with a perforate or incomplete interventricular septum, leaving a communication between the two ventricles, the aperture being always near the base of the heart. On this hypothesis the explanation would be as follows: In the early part of the ventricular diastole, when both ventricles, in rebounding from the systole, suck in blood from the auricles, the left, having thicker walls and being the more powerful, might be expected to draw in blood from the right, through the aperture in the septum, as well as from the left auricle, which would give rise to the diastolic murmur heard over a limited spot in the left third space; this would be variable in length and intensity from the varying negative pressure on the heart in respiration. While the patient lay quiet in bed, and no pulmonary complication existed, this was the only murmur heard; but when the heart's action became more excited and powerful in consequence of pulmonary congestion, a systolic murmur was developed in the narrowed aortic orifice, and later, when she began to assume the erect posture, which would increase the resistance in the systemic circulation without affecting the pulmonary circulation, the increased energy of the left ventricle forced a part of its contents through the orifice in the septum, producing the systolic murmur heard to the left of the lower end of the sternum. All the murmurs would thus be accounted for, together with their variations, the reduplication of the second sound, which was so striking a feature in the case, the want of synchronism in the closure of the pulmonary and aortic semilunar valves would be explained by the delay experienced by the left ventricle in expelling its contents through the narrowed aorta. The presystolic vibration, sometimes felt by the hand, and the presystolic rumble, sometimes audible to the inner side of the apex, were probably incident to the dilatation of the right ventricle. The patient having so far recovered as to be able to return to her work, no opportunity was yet afforded of verifying or correcting the diagnosis; but it is not without profit to study complex and difficult cases independently of such opportunity.

ART. 57.—*Three Cases of Aortic Disease.*

By S. O. HABERSHON, M.D.

(*The Lancet*, February 22.)

At a meeting of the Medical Society of London, January 27th, Dr. Habershon read three instances of aortic disease which had recently come under his care, and showed the pathological specimens. The first was that of a man, aged thirty-nine, who had suffered from repeated attacks of rheumatism. When admitted into Guy's Hospital in August, 1872, he was suffering from urgent dyspnoea and cardiac distress, with œdema of the lower extremities; a loud double bruit was

audible over the aortic valves and in the course of the aorta, but after a few days the bruit changed in character and became a continuous sound. He died on the 10th September, and on inspection the aortic valves were found to be extremely diseased. One was contracted and everted; the valve nearest the pulmonary artery was thickened, ulcerated, and covered with fibrinous vegetation; an ulcerated opening immediately above the valve extended into the pulmonary artery; the edges were irregular, and the opening was partially blocked up with fibrin. The mitral was thickened, but other structures were healthy. Dr. Habershon referred the changed character of the sound to the ulcerative communication between the aorta and the pulmonary artery. The second case was that of a man, aged fifty-six, who was brought to the hospital in a dying state in December, 1872. He had been engaged in laborer's work, and dated his last illness to a cold taken at Christmas, 1871. Dysphagia came on two months before death, and gradually increased in severity. The patient suffered from dyspnoea and severe pain between the shoulders. There was now a short systolic bruit audible at the apex of the heart. The prostration was extreme. When he was admitted, the aorta was found to be much diseased, especially in the ascending and transverse portion of the aorta. The vessel was enormously dilated, so as to admit a man's fist. On the right side, immediately above the valves, a pouch extended to the right, and the lung in contact with it was sloughing. Other lobules of the lung were in a similar state. At the commencement of the ascending aorta an angle was formed by the contraction of the pouch, and at this part pressure had been made upon the left bronchus and upon the oesophagus; an oval communication an inch in length existed between the two canals, and the ends of the bronchial cartilages projected into the oesophagus. The third instance was a very remarkable one, in which multilocular aneurism of the ascending portion of the arch of the aorta existed. The sac extended behind the sternum, and occupied the normal position of the heart; it perforated the ribs, and a third false sac formed a pulsating tumor extending to the left side of the sternum below the left nipple, in the direction of the axilla. Death resulted from the perforation of the post-sternal sac into the left pleura. The patient was fifty-five years of age. He dated his illness to a blow on the chest, and afterwards he suffered from pain about the left breast, especially on exertion. The attacks became more frequent during the last year of his life, and three weeks before admission into the hospital, at the end of October, 1872, he noticed a swelling in the precordial region. This swelling rapidly increased in size, and became as large as both fists, and pulsatile in character. Darting pain came on with dyspnoea and distress, and when hemorrhage into the pleura occurred, he speedily sank. The aorta was found to be dilated and atheromatous, and two inches above the valves was an opening three inches in circumference, which passed into an aneurismal sac and then into the subcutaneous sac, the latter opening being between the third and fourth ribs. Forty ounces of clot, and as much serum, were found in the left pleura. The question of differential diagnosis between aneurismal and vascular malignant growth was briefly dwelt on, but the result showed the original opinion of aneurismal disease to have been correct.

ART. 58.—*Use of Digitalis in the Failing Heart and Delirium of Acute Diseases.*

By JAMES LITTLE, M.D.

(*Irish Hospital Gazette*, Jan. 15.)

Dr. Little read a paper on this subject before the Medical Society of the College of Physicians, January 8th, 1873. After alluding to the well-known and valuable investigations of Dr. Stokes and Sir Dominic Corrigan on the condition of the heart in fever, he advocated the employment of digitalis in cases in which the stimulants were either not well borne or were contra-indicated, as, for example, in most cases where there was renal affection; under such circumstances he (Dr. Little) had given digitalis in more than twenty

cases, including six of typhus and one of rheumatic fever, the remaining being cases of enteric fever. He usually gave half-drachm doses of the tincture every three or four hours—rarely every hour—discontinuing the medicine when the pulse fell to 80: except in one instance, wine and brandy were also given. The case in which digitalis alone was employed, was one of rheumatic fever, occurring in a merchant, aged thirty-five, who had had symptoms of rheumatism last October, and also had suffered six months previously from dyspepsia, with considerable cerebral disturbance. On the 26th October he remained in bed, his heart was very weak, and his temperature 102°. He was ordered twenty minims of the tincture of the perchloride of iron every fourth hour. Four days subsequently symptoms of cardiac complication supervened. On the 11th November he was delirious at night. On the 18th November his pulse was 100, very feeble; the first sound of the heart was absent, and he had not slept for 100 hours. As stimulants could not be borne, tincture of digitalis, in half-drachm doses, was given every hour. After the eighth dose the patient fell asleep. In consequence of the subsequent occurrence of nausea the tincture was discontinued, and a hypodermic injection, composed of one-eightieth of a grain of atropia, one-fortieth of a grain of digitaline, and one-fourth of a grain of morphia, substituted. The patient eventually recovered.

ART. 59.—*On the Production of a Remarkable Endocardial Murmur, accompanied with unusual Slowness of the Pulse.*

By J. BURNEY YEO, M.B., Assistant Physician to King's College and the Brompton Hospitals.

(*The Lancet*, December 28, 1872.)

A man forty-five years of age, came as an out-patient to King's College Hospital complaining of a beating or throbbing at the epigastrium, with pain and tenderness in that region. He complained also of great dyspnoea, and stated that he had suffered from four attacks of rheumatic fever. On examination, a distinct beat, synchronous with the pulse, could be felt rather low down in the epigastric region. It was lower than ordinary epigastric pulsation, and the heart's apex beat in the natural position. His pulse was regular and of good volume, but very slow, beating only 36 to the minute. On listening over the heart's apex, a very remarkable complex bruit was heard. There was first a loud prolonged systolic murmur, and then, immediately after, two short sounds; so that between each beat of the heart we heard three distinct murmurs: a long and loud murmur (systolic), a short and softer murmur (post-systolic), and another short and soft murmur (pre-systolic). The unusual slowness of the heart's action enabled us to separate this complex sound very easily and distinctly into its component elements. Systolic and diastolic aortic murmurs were also audible at the base.

A few days after the appearance of this patient at King's College Hospital his wife came to say that he had died rather suddenly the night before. As Dr. Yeo was desirous of satisfying himself—(1) as to the cause of the epigastric pulsation and pain (this being the man's chief trouble); (2) as to the precise condition which gave rise to the curious murmur heard; and (3) as to its connection with the unusual slowness of pulse, he asked and obtained permission to make a post-mortem examination.

On opening the chest the pericardium was found uniformly adherent to every part of the heart's surface. The heart was flabby, its cavities considerably dilated, and their walls thinned, that of the right ventricle being very thin. The right side of the heart was distended with clot, and so was the left auricle, which was enormously dilated to three or four times its natural size. The mitral orifice was considerably diminished in circumference, the segments of the mitral valve were thickened, somewhat puckered at their free edges, and adherent to one another by their adjacent margins. The orifice was nearly circular in form, and about three-fourths of an inch in diameter. The aortic valves were

also thickened, and to some extent disabled. A slight festooned fringe of fibrin was observed just beneath the free margin of each valve, and two of the valves were adherent by their contiguous sides.

Dr. Yeo remarks: "I can now see how the physical signs observed during life were produced. The first loud and long bruit heard at the apex was clearly a regurgitant one, accompanying the systole of the ventricle. The next short sound was *post-systolic*, and caused by the *commencement* of the flow of blood from the auricle into the ventricle through the contracted and somewhat rigid mitral valve (or it may have been produced, as Dr. G. Johnson suggests, who examined the case with me, by aortic regurgitation, and in that case was diastolic aortic). The third sound was pre-systolic, and coincided with the contraction of the greatly dilated auricle, which slowly and with difficulty gathered up force enough to complete *its* systole. We can also understand how the retardation of the pulse was brought about. The ventricle had to wait, as it were, on the auricle; and the auricle, owing to its great distension, and the thinness of its walls, could only empty itself slowly and with great difficulty. In this way the pulse was delayed, and death was probably caused by the inability, at length, of the left auricle to empty itself."

The epigastric pulsation, so much complained of during the life of the patient, seemed to be due to the uniform adhesion of the pericardium, by means of which the diaphragm was so stuck to the surface of the heart that at each pulsation it moved with it, and its movements were conveyed by a flatulently-distended stomach to the surface.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 60.—*Treatment of Pyrosis.*

By J. G. BRADEN, M.R.C.S.

(*The Lancet*, February 22.)

For the treatment of pyrosis, Mr. Braden recommends ten grains of subnitrate of bismuth, with five grains of the compound kino powder, suspended in thin mucilage, three times a day.

ART. 61.—*Case of Long-standing Diarrhœa Cured by the Surgical Treatment of an Ulcer of the Rectum.*

By THOMAS ANNANDALE, F.R.S.E., Surgeon to the Edinburgh Infirmary, and Lecturer on Clinical Surgery.

(*British Medical Journal*, December 21, 1872.)

Dr. —, aged fifty, applied to Mr. Annandale on the 28th of March, 1872, on account of persistent dysenteric diarrhœa. He had recently returned from India, where he had resided continuously since May, 1847. For the last three years he had suffered from constant diarrhœa, which had resisted many remedies carefully tried. He also suffered from much irritation of the rectum, which was supposed to be due to piles. It was an usual thing for Dr. — to have four, five, or six motions daily, and he had had no "formed" motion for three years. Having made an examination of the rectum, Mr. Annandale ascertained the presence of an ulcer, which was situated about one inch above the anal orifice. This ulcer was on the posterior wall of the rectum, was of the size of a four-penny-piece, and had a depressed surface, with hard edges. It was only slightly painful when touched.

On April 22d, a free incision was made through the sphincter and base of the ulcer, and this was followed by a decided improvement in the symptoms. On the 21st May, finding that the sore, although much smaller, still presented an irritable appearance, its base was again divided freely. Some inflammation and suppuration of the lymphatics passing up towards the groin followed this second

operation; but on the 29th, eight days after its performance, a most marked improvement in the dysenteric symptoms took place. On June 1st the patient had no motion at all; and on June 2d, one "formed" motion, the first for three years. Since then the patient's progress has been perfect towards recovery; during the progress of the case, milk diet only was allowed.

ART. 62.—On the Stomach-Pump in the Treatment of Chronic Gastric Catarrh and Dilatation.¹

By Dr. SCHLIEP.

(*The Lancet*, December 14, 1872.)

In many cases the results of the application of the stomach-pump had been eminently satisfactory, and appeared in general in the following order: Vomiting ceased, pains disappeared, appetite and action of the bowels soon became better, the general health was improved, and the patient's weight was increased. In some cases it was found desirable to wash out the stomach with solutions of various medicines; and Dr. Schliep tried soda, creasote, boracic acid, and permanganate of potash, with good effect. The patients soon became accustomed to the introduction of the pipe; and, after several applications, the unpleasantness of the operation disappeared entirely. The fear of sucking some mucous membrane into the opening of the tube was almost without foundation, and such an event might be avoided by care and by inserting an India-rubber tube between the pipe and the pump, which would close as soon as any impediment opposed the flow of liquid to the pipe. It happened once to Dr. Schliep, in about six hundred applications of the pump, to bring up a small piece of the membrane, when the patient himself pulled out the tube somewhat suddenly after the finishing of the operation; but no bad consequences followed. Considering the advantages of the stomach-pump in the cases alluded to, Dr. Schliep believes that this method of treatment will take an important place in the therapeutical agents in stomach diseases.

Dr. Cholmeley doubted whether the treatment described was applicable in many cases, and thought the plan heroic, if not barbarous. In some cases of dilatation of the stomach the operation might be useful, but the fact that in one case reported the mucous coat had been injured, and in several others bleeding had occurred, showed that great caution was required in the use of the instrument, and that it should not be used indiscriminately.

Dr. Hilton Fagge thought such cases were more common than was generally supposed, and spoke of the value of actual examination of the abdominal walls when the patient was in the horizontal position as a means of diagnosis, inasmuch as the peristaltic movements could be readily seen. He also related one or two instances of dilatation of the stomach, in which treatment by the pump had evidently benefited the patient.

Dr. Schliep, in reply, adhered to his opinion as to the utility of the operation, and remarked, in answer to Dr. Cholmeley, that he had operated 600 times, not on 600 patients, and hinted that the general use of the stomach-pump in many diseases might assist our knowledge as to the kind of food best digested in particular cases.

ART. 63.—On the Use of Belladonna in Intestinal Obstruction.

By JOSEPH MORRIS, M.D.

(*The Lancet*, February 8.)

Two years ago a case of obstruction of the bowels came under the author's care. Every remedy that he could devise to relieve the patient failed. Thinking that the obstruction might be caused by violent contraction of the circular

¹ Read at a Meeting of the Clinical Society of London, Nov. 22d.

muscular fibres of the bowel, Dr. Morris ordered a suppository of two grains of the extract of belladonna to be passed up the rectum, when in less than two hours a most copious discharge of hard scybala followed, with cessation of all the distressing symptoms consequent on the obstruction. Since that time Dr. Morris has had three similar cases under his care, all of which have yielded to the introduction of belladonna by the rectum.

ART. 64.—*Report of a Fatal Case of Intestinal Obstruction.*¹

By J. C. THOROWGOOD, M.D., F.R.C.P.

(*The Lancet*, February 1.)

M. C.—, aged sixty, was seen by Dr. Thorowgood on the evening of May 20th, 1872, with Dr. Wallace, of Hackney. The general health had been good up to five weeks previous. On the 16th of May he was seized with severe pains of a griping and twisting character. The bowels had been for several days without action; frequent enemata and purgatives having failed to give any relief, recourse was had to opium, which relieved the pain. When seen on the 20th he had been a week without an action of the bowels; his face was flushed, pulse 88, not thready; tongue dry; frequent vomiting, but not of a stercoraceous nature; no jaundice; no passage of blood by bowels. Abdomen swollen and tense; a solid mass felt on the right side. A large injection was given by means of the gravitation tube; it passed easily into the bowel, and returned, bringing with it a few small pellets of fecal matter. An ointment of mercury and belladonna was applied over the abdomen, and quarter-grain doses of extract of belladonna were given every two hours. He was seen again on the 24th: tongue quite dry, pulse 88, urine scanty and turbid, and distress extreme. An injection containing extract of belladonna was given, and a pill—composed of half a grain of opium-powder, a quarter of a grain of extract of belladonna, and half a grain of acetate of lead—every two hours. After he had taken about ten pills the bowels acted freely, with immense relief. On the 30th May he had four good consistent motions, and the mass on the right side got much smaller. On June 6th the substance appeared again, with stercoraceous vomiting; for a time he got some relief by taking pills of aloes three times a day, and the mass on the right side became scarcely perceptible, the bowels acting with loose motions under the influence of these pills. On August 3d he sank, and died quietly. The post-mortem was made the next day by Dr. Wallace, who was allowed to examine the abdomen only. Extensive atheroma of the aorta and iliac arteries was the only morbid appearance found. No stricture or tumor involving the bowel was discovered, though the lower part of the small, and the whole of the large intestines were carefully examined. The coat of the large intestine was wasted and thinned to a great degree. In commenting on this case, Dr. Thorowgood alluded to the importance of careful diagnosis. The rectum, especially, should be examined by the finger and by a bougie or tube, to see if there be present one of these annular strictures high up which were described by Mr. Henry Smith in his Lettsomian Lecture in 1865. The intense twisting pain at first seemed to point to a possible intussusception as the commencement of the trouble. To relieve this belladonna was tried, and this not succeeding, acetate of lead was added, in the hope that, as lead acts powerfully on the muscular coat of the bowel, so as to alter its calibre, it might in some way aid in untwisting the invagination. One case was mentioned in which acetate of lead given thus had succeeded in affording relief, and in the present case, after as much as five grains of the acetate had been given, copious relief followed. The bowels having been once opened, attempts were made to keep them open by enemata and stimulating purgatives, and though these succeeded so far as to remove the swelling on the right side of the abdomen, yet the patient sank and died with all the symptoms during life and the appearance after death of atony and wasting of the bowel.

¹ Read at a Meeting of the Medical Society of London, January 13th.

ART. 65.—*On the Treatment of Chronic Dysentery.*

By STEPHEN H. WARD, M.D., F.R.C.P.

(Medical Times and Gazette, February 22.)

The first thing to be insisted upon is rest in bed, and in the recumbent position, in which the bowels are best kept quiet.

Diet stands next in importance to rest. That kind of diet should be ordered which gives least work to the alimentary canal, and which is most likely to be assimilated should the mesenteric glands be implicated, and which will send down to the large bowel a minimum amount of irritating waste material. Milk is the best form of nourishment in these cases; flour boiled with milk is a good combination; farinaceous articles of diet are also admissible. As a rule, the patients do better without alcoholic stimuli; but where there is much prostration these must be given.

It is important that an even temperature should be maintained in the bedroom or ward by night as well as by day. It had long been remarked that patients passing, say, twenty stools in twenty-four hours, would pass a large proportion of them in the night-time. The action of the skin, which it is desirable not to check, can be evenly maintained in bed. Dr. Ward has found the application of a broad flannel roller in some cases to do good by carrying out the indication of support and local surface-warmth. During the period of convalescence, flannel next the skin, and otherwise adequate clothing, are essential.

Special remedial agents render important service in the relief of various symptoms. An occasional dose of opium at night, where there are irritability and restlessness, may be given, not to lock up the bowels, but with a view of procuring sleep. A dose of castor oil, guarded with laudanum, is often of service in bringing away scybalous fecal matter that has been retained, and caused griping and distress. For the tenesmus from which some patients suffer so much, an injection of starch and opium is the best remedy. The possibility of irritation being kept up by hemorrhoids must not be lost sight of. The severe and oft-repeated straining in the earlier stages of the disease gives rise at times to prolapsus ani, which in the more advanced stage may become a source of annoyance, and require surgical aid.

The complexion and course of chronic dysentery may be modified by the association of some special cachexia, as that of scurvy, ague, or tuberculosis. Where such exists the treatment will have to be modified. Where there are evidences of scorbutic taint, lime or lemon-juice must be given. It is here that the Bael fruit, which has enjoyed so much repute in India, will be found useful. If there be any old malarious influence at work, the symptoms will exhibit periodicity—the patients will perhaps be worse on alternate days, and then quinine will be the remedy. Where cough, hectic, etc., point to the tuberculous diathesis, cod-liver oil and tonics are indicated.

ART. 66.—*On the Curative Action of Ipecacuanha in Diarrhœa.*

By JOHN C. THOROWGOOD, M.D., F.R.C.P.

(The Lancet, May 24.)

At a meeting of the Clinical Society, May 9th, Dr. Thorowgood read notes of two cases of the Curative Action of Ipecacuanha in Diarrhœa:—

CASE 1.—William B——, aged twenty, after passing through an attack of typhoid fever, remained subject to obstinate diarrhœa. He improved somewhat, and was discharged from the West London Hospital in February, 1872. On January 1st, 1873, he was readmitted, having been for some time under the care of Dr. Ferrier, as an out-patient with diarrhœa. When admitted, he had, on an average, ten or twelve liquid motions in the twenty-four hours. These

were repeatedly examined, and found of a red color from admixture with blood; a small amount of shred-like substance was also mixed with them. The patient was not much emaciated; he had a fair appetite, no sickness, no night sweats. His pulse was from 88 to 100; temperature 99°. The abdomen was tense and swollen, and at the left iliac region tenderness was very evident. He had had some chronic mischief at the base of the right lung, but this seemed to have subsided. The urine was loaded with pale lithates, and free from albumen. Treatment consisted in rest in bed, with milk diet and a mixture of chalk with bismuth. After a week being no better, and it being observed that the bowels acted rapidly after food, he got for a few days iodide of potassium, with two drops of liquor arsenicalis. This mixture made him worse, and it was soon stopped. About the middle of January he was put on a diet of solid meat instead of milk; and had nitrate of silver with opium, decoction of logwood, injections of starch with tincture of opium and powders of mercury with chalk, and Dover's powder. None of these methods produced any change for the better, and the motions had the same characters as before. There was not much complaint of pain and tenesmus. During the first week in February he was ordered two grains of powdered ipecacuanha, with five grains of compound tragacanth powder, thrice daily, in water. On this medicine he soon improved, and the dose of ipecacuanha was raised to five grains. On February 26th, the diarrhoea had ceased; he was passing formed motions, and was allowed to leave the hospital.

CASE 2 was that of a young man who for the last six years had been troubled with diarrhoea as a result of wet and exposure in his work as a bricklayer. He usually had six motions in twenty-four hours, liquid, and often mixed with blood. At times he had to lie up for a few weeks. Pain was felt over the region of the liver; the chest was healthy. This man had taken much physic, and he now had two grains of powdered ipecacuanha with five grains of compound tragacanth powder in water, thrice daily. In one week he said he was better than he had felt for the last six years. For the last three days he had passed one consistent motion daily. A few weeks later he came with return of diarrhoea from exposure to wet. He got solution of perntrate of iron, and this failing to relieve, Indian bael was tried to no purpose. He requested to have the powders again, and under their use he seemed to recover completely. Dr. Thorowgood considered that these two cases of obstinate chronic disease, having apparently no inherent tendency to spontaneous cure, were capable of well illustrating the action of such a drug as the pulv. ipecac. The fact, also, of the remedy acting so well when given pure and uncombined was worth consideration.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 67.—*Clinical Remarks on Albuminuria.*

By SAMUEL WILKS, M.D., F.R.C.P., Senior Physician to Guy's Hospital.

Albumen may appear in the urine as the result of a cold. The explanation of this seems to be that the cold sets up in the uriniferous tubules a condition closely resembling that found in the bronchial tubes when they are affected. When the kidney recovers itself the albuminuria disappears. But a cold may give rise to acute tubular nephritis; and even this may be recovered from. The albuminuria dependent on the inflammation produced in this manner is very different from that which occurs as a result of a chronic degenerative change in the tubules of the kidney, which is itself often only a part of a general condition. Their respective prognoses are different. It is difficult to say the exact time at which albuminuria, as a result of acute tubular nephritis, becomes incurable. There is no doubt that many persons who have been condemned have recovered. Dr. Wilks formerly thought that if dropsy and albuminuria, as a result of acute tubular nephritis, lasted six months, cure was impossible,

But he thinks so no longer; for he has seen cases recover after a much longer period than this. One of the first places in which dropy, as a result of renal disease, shows itself is the sub-conjunctival tissue. Drs. Bright and Barlow always looked to the conjunctivæ when kidney disease was suspected, and laid great stress on the presence or absence of œdema of this part. When œdema is present the conjunctivæ look bright and glistening, and the eyes appear suffused with tears; but an examination will show that the fluid is beneath, and not upon, the mucous membranes.

ART. 68.—Pathology of Chronic Bright's Disease with Contracted Kidney, with especial reference to the Theory of "Arterio-Capillary Fibrosis."¹

By GEORGE JOHNSON, M.D., F.R.S., Physician to King's College Hospital.

(*British Medical Journal*, December 21, 1872.)

The author began by referring to his discovery of hypertrophy of the muscular walls of the minute arteries in cases of chronic Bright's disease, published in the 51st volume of the *Medico-Chirurgical Transactions*. This result of a quarter of a century's careful observation is now called in question by Sir William Gull and Dr. Sutton, who in the recently issued volume of the *Transactions*, propound doctrines of great novelty relating to the pathology of Bright's disease. They give a brief summary of their conclusions at pp. 295–96. Dr. Johnson now proposed to inquire whether these conclusions are in accordance with pathological facts and with physiological principles.

To prove that hypertrophy of the heart is a consequence of "arterio-capillary fibrosis," and not of degeneration of the kidney, they refer to six cases in which it is said that the cardio-vascular changes were present, while the kidneys were healthy or but little altered in structure. In each of these cases Dr. Johnson maintains that the hypertrophy of the heart was due, not to changes in the minute bloodvessels, but to other obvious causes. In one case (No. 7), aged forty-two, there was emphysema of the lung and bronchitis; in one (Case 10), aged sixty-nine, there was senile gangrene and, of course, degeneration of the larger arteries; in one (Case 20), there was disease of the aortic valves: one patient, who was sixty-three years of age (Case 2), probably had senile degeneration of the arteries, and her kidneys weighed fifteen ounces; another (Case 3) was seventy-seven years of age; while in a sixth case (No. 19), aged sixty-two, there was atheroma of the cerebral and probably of other arteries, his lungs were very emphysematous, and his kidneys weighed only eight ounces. It is assumed by Sir William Gull and Dr. Sutton that kidneys weighing as much as fifteen ounces and as little as eight ounces were alike free from disease.

Although it is maintained (pp. 289–90) that there is a constant relation between the "hyalin-fibroid" change in the vessels and hypertrophy of the heart, it is stated (p. 292) that in a few cases this change was seen in the vessels of the pia mater, unassociated with hypertrophy of the heart. The "hyalin-fibroid" change is supposed to lessen the elasticity of the walls of the minute arteries, so as to impede the circulation, and to cause hypertrophy of the left ventricle (p. 290). Dr. Johnson maintains that in this explanation the elasticity of the larger arteries, which acts in aid of the heart as a propelling force, is confounded with the muscularity of the smaller arteries, which antagonizes the heart. Degeneration of the muscular walls of the arteries would involve, not an increase, but a decrease of resistance, and therefore would not explain the cardiac hypertrophy. It is stated by Gull and Sutton (p. 295) that thickening of the arterial walls is always associated with atrophy of the adjacent tissues. Yet they state (p. 287) that these arteries are thickened in the walls of the hypertrophied heart, and they are also thickened in the large white kidney.

¹ Read at the Royal Medical and Chirurgical Society, Dec. 10th, 1872.

Going on to discuss the nature of the "hyalin-fibroid" change, Dr. Johnson maintains that it is not an ante-mortem pathological change, but a post-mortem physical result of the distension of the fibrous tunic of the arteries by the mixture of glycerine and camphor water, in which all the specimens had been mounted before they were examined by the authors of this theory. He maintains that the appearance in question is never seen in vessels examined immediately after their removal from the body, or preserved in dilute spirit, or in a solution of salt of specific gravity 1030, while it is frequently, but not constantly, observed in specimens mounted in glycerine. Normal arteries from the pia mater mounted in these different fluids present a striking contrast; those in dilute spirit or in salt and water appearing quite normal, while those in glycerine are often thickened and hyaline.

The "hyalin-fibroid" appearance thus produced may be seen in vessels from subjects at the two extremes of infancy and old age, where death has resulted from diseases having no relation to Bright's disease, and quite unconnected with hypertrophy of the heart. Specimens are preserved from the pia mater of a woman, aged forty, who died of diabetes, and whose heart weighed only six ounces and three-quarters; from another woman, aged forty, who had cancer of the ovary, the heart weighing eight ounces; from an infant, aged eleven months, who died from spasm of the glottis, the kidneys, heart, and all the viscera being quite healthy; and from a boy, aged fifteen, who died from typhoid fever, having been in good health until the attack of fever. There was no post-mortem evidence of disease except such as resulted from the fever. Arteries from the pia mater are preserved in three different fluids. Those in weak spirit and in salt and water (specific gravity 1030) appear quite normal, while those in glycerine and camphor water have their fibrous tunic much distended and extremely "hyaline."

The imbibition of fluid by the arterial tunics is a result of physical conditions. A fluid slightly acidulated rapidly passes in, and distends the fibrous tunic, rendering it "hyaline;" then the neutralization of the fluid by ammonia occasions a rapid shrinking of the tunica adventitia, which again assumes its normal fibrous appearance.

The physical conditions which favor the imbibition of the simple unacidulated mixture of glycerine and camphor water would be influenced by various circumstances, such as the mode of death, and the period after death at which the examination is made. It is incumbent on those who maintain that the appearances in question are the result of pathological processes to demonstrate them in vessels which have been unchanged by artificial agents. The glycerine renders the muscular structure in some vessels indistinct; and this has been described as atrophy of the muscular elements. In other vessels it separates the inner from the muscular coat; and this has been mistaken for thickening of the internal tunic of the artery. (See plate v., figs. 3 and 4, in the last volume of the Transactions). The author denies that the capillaries are thickened; and maintains that arterioles in the pia mater distended by glycerine have been mistaken for capillaries. With regard to the changes in the kidney, their "hyalin-fibroid" character is denied by Dr. Johnson; and reference is made to a paper by Mr. Simon, and another by Dr. Johnson, in the thirtieth volume of the Transactions. Referring to fig. 7, plate vi., in the paper by Gull and Sutton, Johnson declares that they ignore the fact that, in the renal arteries, there is an inner longitudinal, and an outer circular, layer of muscular fibres; and in a transverse section of such an artery they mistake the outer circular layer for the analogue, in position and structure, of the "hyalin-fibroid" condition of the fibrous tissue of the arteries of the pia mater. They deny the existence of muscular hypertrophy; yet some of their own specimens and drawings exhibited at the conversazione of the Society in June were good examples of hypertrophy of the muscular walls of the arteries. Reference is made to a footnote at p. 277 of their paper, in which a doubt is expressed as to the possibility of casts escaping from the convoluted tubules of the cortex.¹

¹ In the note referred to, the word *tubercles* is, without doubt, a misprint for *tubules*.

Dr. Johnson maintained that in the microscopic appearances of some forms of tube-casts we have abundant evidence of their origin in, and their escape from, the convoluted tubes. The more frequent occurrence of hypertrophy of the heart in connection with the contracted than with the large white kidney he explains partly by the more watery blood in the latter cases exciting less contraction of the arterioles, and partly by the occurrence of waxy or lardaceous degeneration of the minute arteries, which thereby have their contractile and resisting power impaired. To doubt the causative connection between contracted kidney and hypertrophy of the heart because they are not constantly associated, would be as unreasonable as to deny that a large white kidney is a cause of dropsy because dropsy is sometimes absent. The author disputes the statement that the morbid changes in cases of contracted kidney "are the result of causes not yet ascertained." The most common causes are excess of food and of stimulants, with or without decided gouty symptoms, but he has seen many cases in which the disease has been a result of chronic dyspepsia in persons of strictly temperate habits. The proximate cause of the renal degeneration is the excretion of abnormal products by the gland-cells. This applies to all forms of Bright's disease, whether acute or chronic. The term "arterio-capillary fibrosis" is a misnomer, for the capillaries, except the Malpighian capillaries, are unchanged, and there is no morbid "fibrosis" of the arteries.

The author concludes by thanking Sir William Gull and Dr. Sutton for having so forcibly directed attention to the cardio-vascular changes in chronic Bright's disease. Differing entirely in their pathology, they agree in thinking the subject one of great interest and importance.

ART. 69.—On Spontaneous Uræmic Intoxication.

By M. GIGOT-SUARD.

(*Medical Times and Gazette*, February 1.)

At the meeting of the Académie de Médecine of Jan. 21st M. Gigot-Suard read an interesting paper on "Spontaneous Uræmic Intoxication," the conclusions of which he thus sums up:—

"The injection of uric acid may give rise to uricæmia—that is, the surcharge of the blood with this excrementitious product. Uric acid administered to dogs in quantities of at least twenty centigrammes, and at most four grammes, in the twenty-four hours, during a period of time which has varied from one or two months, has occasioned extremely remarkable results, calculated to throw light on the pathogeny of a great number of chronic diseases. Several times the alkalescence of the blood has so much diminished that it has appeared nearly neutral; and the microscope and chemical analysis have revealed the presence of crystals of uric acid, of oxalic acid, and of urate of soda in that fluid.

"The organs and tissues upon which the uric acid has demonstrated its action are, in order of frequency,—the skin, the mucous membranes and their glands, the lungs, the kidneys, the liver, the pancreas, the brain, the lymphatic glands, the articulations, the spleen, the pericardium, the spinal membranes, and the heart. The skin has presented almost all the alterations described by dermatologists. A more or less deep injection of the mucous membranes has been observed, but seldom any softening. The membranes most often affected have been those of the nose, mouth, eyes, and bronchi. The glands have been found hypertrophied and even ulcerated, but this latter lesion has been especially met with in the tubular glands of the rectum. The pulmonary lesions are congestion and splenization, with or without apoplectic effusions. The renal lesions have varied from a simple congestion of the cortical substance to the changes characteristic of Bright's disease. The liver has been found several times congested, and once in a state of fatty degeneration. In the pancreas there has been observed only a more or less extensive injection of its surface. In the brain, only a small portion of the gray substance has

been found injected as well as its surface. In many instances there has been found cancerous and tuberculous degeneration of the lymphatic glands, while in others they have been only engorged. In the joints there have been found an increase in the quantity of synovia, a much deeper color of the cartilages than in the normal state, and injection of the synovial membrane; but deposits of urate of soda have not been met with. Lesions of the spleen have been rare, and consisted in a slight injection at its edges and a somewhat deep coloration at some points. In one case the spinal membranes and the pericardium have been found much injected, and in one of the eight instances experimented upon the walls of the heart were found enormously thickened."

ART. 70.—On Disseminated Suppuration of the Kidney, Secondary to Certain Conditions of Urinary Disturbance.¹

By W. H. DICKINSON, M.D. Cantab., F.R.C.P., Senior Assistant-Physician and Lecturer on Pathology at St. George's Hospital, Physician to the Hospital for Sick Children, etc."

(*The Lancet*, March 8.)

In this paper the author proceeds to describe the peculiar suppurative condition which is sometimes spoken of as the "surgical kidney," and is produced, as he shows, by the contact of unhealthy urine. Of all renal disorders, next to those described by Bright, it is the most destructive to life. It may almost be said to form the natural termination of stricture of the urethra, and is the especial danger which attends the use of the catheter and lithotrite.

The renal change which is always associated with signs of pelvic and vesical inflammation, and often with alterations of the gland dependent on wasting, pressure, and chronic vascular disturbance, essentially consists of a peculiar turgidity and friability of the renal structure, with the formation of small scattered abscesses, or soft yellow deposits antecedent to abscesses, throughout its structure. With these are usually seen conspicuous white lines in the cones, which are morbidly occupied straight tubes.

With this condition the microscope shows more or less dilatation of the straight tubes, distension of, or coagulation within, the bloodvessels associated with them, and disseminated intertubular suppuration, the distribution of which is regulated by the course of the veins. (The microscopic appearances were illustrated by drawings which show the dilatation of the straight tubes; the irregular repletion of, or coagulation within, the vessels of the cones and the larger veins of the cortex; and the origination of abscesses around the affected vessels and throughout limited tracts of the intertubular tissues. The swelling of the intertubular tissue where thus infiltrated by the new cellular formation was strikingly depicted in contrast with the slender network presented by the same structure in a part of the gland exempt from the change.)

Taking the structural changes in their mutual relation, the usual dilatation of the tubular which exists, the morbid occupation of the veins, and the general absence of tubal inflammation, the nature of the process is clear. The disorder has its origin in the regurgitation of urine charged with morbid products. This occupies and generally distends the straight ducts, and thence enters the neighboring bloodvessels, and charges them with an infection resembling in its results that of pyæmia. This is distributed by the veins to the rest of the gland, sowing abscesses in their course, and ultimately causing constitutional symptoms analogous to that of pyæmia when otherwise derived.

The urine being obviously either the source or the vehicle of the morbid matter, it remains to inquire whence and in what circumstances it becomes thus contaminated. To help in answering these questions the author has collected the particulars of 69 cases from the post-mortem books of St. George's Hospital. The disorder was traced to mechanical obstacles, to the escape of

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, February 25th.

urine (stricture or enlarged prostate) in 31 cases; to paralysis of the bladder in 17; to stone in the bladder or operation for its removal in 15; to cystitis from other causes in 5; and in 1 to a renal calculus complicated with enlargement of the prostate. Looking at the urine as directly connected with the origin of the disease, it appears that three conditions usually concur—retention, ammoniacal decomposition, and admixture with the products of mucous inflammation. Of these, ammoniacal decomposition appears to be essential, or at least to be constantly present. The urine is also generally fetid, and more or less mixed with vesical products, pus, mucus, and blood. The ammoniacal change, although possibly arising independently of mucous inflammation, produces it so constantly that the origin of the disease is always thus complicated. The clinical antecedents to this condition are fundamentally of two kinds—those which begin with retention, and those which begin with cystitis; both in the end producing an ammoniacal and putrescent state of urine. Mechanical obstacles and loss of expulsive power, belonging to the first and larger class, occasion the retention and subsequent decomposition of urine, and its consequent admixture with the products of mucous inflammation. Stone and other vesical irritants, belonging to the second class, begin by causing morbid vesical discharges, which render the urine prone to decomposition, and ultimately induce in it a putrescent condition, not altogether dissimilar to that which springs from retention. The rarity of the renal disease as a consequence of stone in the kidney is probably to be explained by the less putrefactive tendency of the discharges from the pelvic membrane, or of the urine in that cavity.

In cases otherwise so tending, catheterization, lithotripsy, or some such instrumental proceeding, seems sometimes to act as the immediate instigator of the morbid process, as is witnessed by the common phrase which stigmatizes the disease as the "surgical kidney." The disorder, however, may arise independently of any surgical intervention, and would perhaps be better distinguished by the term *uriseptic*, which would declare its general clinical relations more comprehensively.

Having regard to recent researches which have associated the lower kinds of organic life with pyæmia, it is worth noting that the condition of urine which causes the disease now in question is one in which vibriones and bacteria abound. From this, however, no inference as to the nature of the virus can be safely drawn, except that it is associated with decomposition.

Passing to the symptoms of the disease, they have a general resemblance to those of pyæmia, being those of blood-poisoning rather than of renal inflammation. Unlike what happens with pyæmia, organs other than the kidney appear seldom to share in the suppurative process. The complaint usually ends fatally within three weeks of the first symptom, though there is evidence that recovery sometimes occurs. Peri-renal suppuration is an occasional result.

In treatment our efforts must be directed chiefly to prevention, to which end, beyond cautious surgery, measures of two kinds suggest themselves. First, the preservation or restoration of the natural acidity of the urine, a matter of most difficulty where it is most needed. Secondly, as a suggestion as yet unwarranted by experience, the introduction of antiseptics by injection into the bladder.

To sum up: the form of renal suppuration, which may be termed *uriseptic*, has its origin in ammoniacal and putrid urine, poison from which is conveyed by the veins into the substance of the kidney, and thence infects the system, causing symptoms in some respects resembling those of pyæmia. As this form of disease is little obedient to curative medicine, though not necessarily fatal, our efforts must be directed towards the correction of the state of urine from which it springs.

ART. 71.—*Case of Diabetes Insipidus treated with Valerian.*

By JOHN B. BRADBURY, M.D., Physician to Addenbrooke's Hospital, Cambridge.

(*The Lancet*, January 11.)

Dr. Bradbury reports a case which bears additional testimony to the successful treatment of diabetes insipidus by valerian, a remedy that was first recommended by Trousseau. On admission (September 1st) the patient was passing sixteen and a half pints of urine daily, and his weight was 9st. 5½lb. He commenced to take the powdered valerian on the 5th of September, in fifteen grain doses, three times a day. On the 11th the dose was increased to twenty grains, and on the 1st of October these were repeated five times a day, beyond which he could not take them without feeling sick. On the 3d of December his weight had increased to 10st. 10lbs., though the medicine had been gradually left off, and he only passed three pints of urine a day. He continued to improve even after his discharge from the hospital.

ART. 72.—*Renal Calculus, Gravel, and Gouty Deposits, and the Value of Lithium Salts in their Treatment.*

By A. B. GARROD, M.D., F.R.S., Physician to King's College Hospital.

(*Medical Times and Gazette*, January 25.)

Dr. Garrod remarks, that thirteen years have now elapsed since the salts of lithium were introduced into medical practice as internal remedies; and for a period of nine years both the carbonate and citrate of the metal have been made officinal by being placed in the British Pharmacopœia; sufficient time has therefore elapsed for their value as medicinal agents to have been fairly established. Having introduced the lithium salts to the notice of the profession, and having had considerable experience of their action upon the system and therapeutic value, he considers himself in a position to give some opinion upon their merits.

It may perhaps be of advantage, especially to those readers whose attention has not been directed to the subject, to point out some of the peculiarities of the salts of lithium, in order that their action and value may be more readily understood.

In the first place, it may be stated that the oxide of lithium, as likewise the neutral carbonate, are strongly alkaline, resembling, in this respect, the salts of sodium and potassium, and hence the oxide of this metal is generally regarded as the third fixed alkali. Lithium is a metal far less commonly diffused than either sodium or potassium, and it received its name from being supposed to exist only in a few minerals, and not either in the animal or vegetable kingdoms.

The distribution of the metal is, however, much more extensive than was at first supposed, and it is now capable of being detected, by the method of spectrum analysis, in the ashes of many vegetables, and in that of the blood itself, and likewise in many mineral waters. Minerals called triphylline, lepidolite, spodumene, and lithia mica contain it in quantities sufficient to render the extraction of the metal profitable.

The salts of lithium commonly employed are the carbonate and citrate; occasionally he makes use of a guaiacate of lithium for special purposes.

The properties of lithium salts, to which attention may be now advantageously directed, are—

1. *Their Alkaline Properties.*—The carbonate of lithium, although very sparingly soluble in water, forms a solution with a strong alkaline reaction. The corresponding salts of sodium and potassium are much more soluble.

The amount of alkalinity of the three salts, or their neutralizing power for

acids, differs greatly. The carbonate of lithium has the greatest amount of neutralizing power; next comes the carbonate of sodium; and lastly the carbonate of potassium. This difference depends on the equivalent of the respective metals, that of lithium being 7, of sodium 23, and of potassium 39; the lower the equivalent the greater the neutralizing power of the carbonate.

When in practice we administer these salts as direct antacid remedies—that is, for the purpose of arresting acidity in the stomach and intestines—we may consider their power to be in the inverse order of the equivalents of the salts. When the citrate of lithium is given, although it is difficult to state where the decomposition takes place, we know that we find it in the urine as carbonate; and hence, although the salt possesses no direct antacid power, still it is equally antacid, as far as the urine is concerned, to the carbonate, when the amount of lithium in each salt is taken into consideration. Looked upon simply as either direct or remote antacid remedies, the salts of lithium possess no known properties which render them in any degree more eligible than the salts of potassium and sodium; and there are other considerations which render them less desirable, especially their high price.

2. *Action of Lithium Salts as Diuretics.*—If we examine the powers of the salts of lithium, sodium, and potassium, as regards their action upon the kidneys, we find, as far as their diuretic power is concerned, lithium stands by far the highest; sodium the lowest; potassium being intermediate. The power of lithium salts in increasing the urinary secretion in many cases is extremely marked; and some patients to whom these preparations are given for other purposes than as diuretics, find it often inconvenient to take them in the latter part of the day, on account of the diuretic effects during the night.

3. *Peculiarities of Urate of Lithium.*—A very important characteristic of lithium as a medicinal agent, is the solubility of the salt which it forms with uric or lithic acid, the urate or lithate of lithium being by far the most soluble salt of the acid which is known; in fact, it is the only salt of uric acid which can be looked upon as soluble to any great degree. As the inconveniences which uric acid or its salts cause in the system depend on their very sparing solubility, leading to the formation of calculi, gravel, or gouty deposits, it can be readily understood that an agent possessing the powers of lithium would be likely to prove of considerable advantage in many diseases in which uric acid plays an important part. Although the exact solubility of the different salts of uric acid has not as yet been very carefully determined, yet there is no difficulty in showing the great solvent power of carbonate of lithium, compared with the corresponding salts of sodium and potassium. It has, for instance, been found that the mineral lepidolite, in fine powder, when boiled with uric acid, has the lithium extracted from the silicic acid contained in it, and the urate of lithia formed. Again, when carbonate of lithia is boiled in a quantity of water insufficient for its solution, the addition of uric acid renders it soluble, proving that the urate is more soluble than the carbonate of the metal. To further illustrate the subject, it will be found, if we add to solutions of equal strengths of the three alkaline carbonates, at the temperature of the body, uric acid in the form of uric calculi, or in any other shape, that the lithium solution attacks it rapidly; the sodium solutions very slowly and to a small extent; the potassium salts in an intermediate degree.

To sum up, we may remark that lithium salts as simply antacid remedies offer no special advantages; that as diuretics they may, in cases in which saline diuretics are indicated, prove of much service; but that as agents to prevent the deposition of uric acid or its salts in the cavities or tissues of the body, they possess properties which may render them important medicinal agents.

ART. 73.—*The Solvent Treatment of Calculi.*

By JOHN C. MURRAY, M.D.

(*The Lancet*, February 1.)

Hitherto this mode of treatment of calculi has not, Dr. Murray writes, had a fair chance. We have long given dilute mineral acids for phosphatic and

alkalies for uric acid deposits; we have also tried solution of vesical calculi by weak acid or alkaline injections, but after a short trial have too often become discouraged by apparent want of efficacy in the means employed; or the patient, being relieved, has become tired of the prolonged treatment, and after a period of comparative ease has ultimately had to submit to an operation, and thus solvent remedies have, undeservedly, met with but scant justice.

In the first place, the author does not think that the primary cause of gravel or calculi is often resident in the urinary system; the original cause is probably attributable to the teeth, stomach, duodenum, liver, and pancreas; much animal food and a too active digestion, with insufficient exercise, will render the blood too acid; while impure air, imperfect digestion, and consequent mal-assimilation of food is apt to cause the blood to be neutral or even alkaline. According to the reaction of the blood, so will be that of the urine. If the blood be excessively alkaline, acid urine will not be secreted from it; if neutral or acid, the urine will be acid unless changed by vesical disease.

Again, he does not attribute the apparent failure of solvent agents to want of power to effect the desired end. In hard-water districts, as was first clearly shown by Dr. Harley, and hinted at by many other writers, the drinking-water has a much greater effect upon the character of the urine than has hitherto been recognized, and in certain constitutions will cause deposits in the urine. In these cases it is vain to expect benefit from solvents, while the patient continues to use for his food and drink the same water to which he has been accustomed; for the daily amount of earthy salts is often sufficient to neutralize the mineral acids taken, and thus only prevents the patient from becoming worse without effecting a cure.

Dr. Murray, therefore, suggests that the solvent method be properly tested in one or more large hospitals. Let a certain number of patients be put under an acid or alkaline course of treatment, according to the kind of gravel or calculi, and let them have only distilled water in all their food and drink; let the treatment be continued sufficiently long, watching carefully the result, and the value of solvent remedies would soon receive a solution.

Since the beginning of April, 1872, he has confined calculus patients to the use of distilled or soft water, and has found the solvent plan effectual when so assisted, although very tantalizing before. After using distilled water, it is quite a common event for a calculus patient to pass one or more water-worn calculi after the second month of treatment.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 74.—*Lectures on Dermatology.*

By Professor ERASMUS WILSON, F.R.S., F.R.C.S.

(*The Lancet*, February 8 and 15; March 8 and 22.)

On Friday, the 31st January, Professor Wilson commenced his fourth course of lectures on dermatology. The early portion of the first lecture was devoted to a short retrospect of previous lectures, and the latter to a description of the additions to the dermatological collection since the last session. The models, numbering a couple of dozen, made by Baretta, are of similar excellence to those already in the museum, and represented papular and vesicular scabies, lichen planus, papular erythema, urticaria, and various manifestations of cutaneous syphilis. Those who will take the trouble to examine these models carefully will observe that the College Professor has differed in his diagnosis from that of his French colleagues under whose care the original cases from which the models have been made were, and he has in several instances given fresh names in accordance with his new diagnoses. We must say we completely agree with Mr. Wilson. The model, regarded as an illustration of pityriasis rubra, is, in reality, one of lichen planus (Wilson), or lichen ruber of Hebra, and we are at a loss to understand how it came about that the physicians of the famous Hôpital St. Louis made such a blunder, unless it be that lichen planus

does not occur (which we doubt) or is rare in France. One of the models, named *plaque syphilitique* by the French, simply illustrates a congeries of syphilitic tubercles in circular disposition. Another labelled by them non-syphilitic psoriasis is syphilitic; and lastly, another styled lupus is clearly syphilitic in all its characters. These and other of the original designations of the models in the collection, as we have before pointed out, do not enhance our respect for the present state of dermatological science in France. We think it is a good deal behindhand, and is specially lacking in regard of pathological considerations, and its professors know apparently little of the labors of foreign writers. Mr. Wilson mentioned, in speaking of the utility of these models in the whole collection, that they would materially assist the learner in making himself acquainted with the anatomical characters of cutaneous diseases, and that speedily, as most phases of the different skin diseases were brought under his notice by them at one time. Syphilis, for example, was illustrated by no less than eighty models. These models, further, would be of great use in refreshing the memory of those who had already studied skin diseases, but had become rusty, at the same time that they enabled the worker or observer to become acquainted with the features of the rarer forms of skin disease. Of course Mr. Wilson does not mean that skin disease can be *best* learnt in museums, since so much is to be learnt by touch, and actual observation in other respects upon the living subject, and in regard of diagnosis by taking into consideration the history, concomitants, the temperament, general aspect, and other appertainings of the patient. But still such an excellent collection as that now brought together in the College gives the learner at once facts about, and aspects of, disease that he would have to wait for a long time in practice or in hospital.

LECTURES II. AND III.

These two lectures were devoted to an historical and descriptive account of leprosy; its varieties, its cause, pathology, and diagnosis; and a number of models and drawings were used in illustration of the various points brought under notice. Mr. Wilson adopted the usual division of the disease into Elephantiasis tuberculosa, and E. anæsthetica, and spoke of it as having first an erythematous, then a tubercular, and last, an ulcerative and a degenerative stage, being in these respects analogous in its course and features as regards changes in the skin to syphilis; and whereas, in the tubercular form, the disease spends itself on the skin chiefly, in the anæsthetic form the nervous system is peculiarly implicated, and nodosities are found upon the trunks of the superficially placed nerves. The meaning of the terms leontiasis, indicating the lion-like aspect of the face, of satyriasis, and the like, was briefly explained, as also that of elephantiasis mutilans—a term applied to leprosy when enucleation of the bones occurs. After speaking in detail of the disordered sensations, the alterations of pigmentation, the change of disposition to one taciturn and moody, in lepers, Mr. Wilson proceeded in his third lecture to discuss the cause. This he affirmed to be a special poison engendered by climatic influences. A predisposition to the disease was engendered by debility, from whatever cause this might arise; the debility favoring the operation of causes which, under other conditions, might not cause the disease. The Professor expressed the opinion that, in its endemic haunts, a special poison may be exhaled from the leper which might convey infection to others, and he thought that the disease might possibly be given to a child from a nurse through the lung exhalations, or through the breast-milk. He thought that, in the case of physicians long resident in leper asylums who became attacked by the disease, the occurrence of the latter was to be attributed to their constantly breathing the air infected by exhalations given off by the leprous. Danielssen and Boeck had stated that the disease was not contagious, and this was probably the case in the northern districts, where they made their researches; but the case was different in other localities. It is more contagious, the Professor thought, in some parts of India than others—viz. along the Malabar coast, at the Mauritius, and at Madagascar. A case was related in which the disease appeared to be taken together with syphilis. Whilst, however, the disease was contagious, it

spread in the majority of cases by hereditary transmission. Mr. Wilson then referred at length to the history of leprosy in Surinam, as given in the work of Dr. Drogat Landré, and also to Dr. Hillebrand's account of the spread of leprosy in Honolulu, where the disease was supposed to be introduced by the Chinese, in illustration of the contagiousness of leprosy. In these two places it is asserted that leprosy has spread by contagion. Mr. Wilson guarded himself by saying finally that the disease was not contagious in the absence of favoring conditions of climate.

The pathological manifestations in the disease were stated to consist in the development of a cachexia associated with a colloid metamorphosis infiltrating the tissues and leading to their ultimate destruction. The colloid material is made up of minute cells having in some cases the characters of colloid spherules. The infiltration of the skin by this material leads to obliteration of the papillary layer, the formation of tubercular masses in the skin destroying the corium and connected structures, including vessels and nerves. The neurilemma of the nerves in various parts is infiltrated with the new material, which envelopes the nerves, separating at first the tubules, and leading presently to their atrophy. Besides these changes, anæmia, local congestions, pigmentations in the skin, mutilations and the like exist. Mr. Wilson here exhibited a series of most admirable drawings from life, made by Dr. Vandyke Carter, showing the appearances presented by the eruptive manifestations, especially the "barras" of anæsthetic leprosy, the deformity of the hand in anæsthetic leprosy, the changes seen in the nerve-trunks (median and ulnar) and muscles of the arm upon dissection, the minute appearances seen in the nerves upon microscopical examination, together with the microscopic characters of the leprous neoplasm, and he paid a well-merited compliment to the zeal and success with which Dr. Vandyke Carter has pursued his investigations. It is to be hoped that Dr. Carter's drawings and facts will be published, since they would constitute a most valuable addition to our present knowledge of leprosy.

Mr. Wilson gave as the duration of tubercular leprosy ten to fifteen years; of the anæsthetic, fifteen to twenty years. The treatment, he observed, consisted first of all in hygienic means, such as removal from a climate where leprosy exists, due exercise, good food, exhilarating society and occupation, the use of baths and the observance of cleanliness, together with nutritious food. Medicines failed to do any special good, yet ordinary tonics—quinine, arsenic, iron, cod-liver oil, and the mineral acids—were to be commended as improving the general health. Drs. Danielssen and Boeck's suggestions and some other recommendations were passed in review, and this brought the lecture to a close.

LECTURE IV.

The Beuperthuy treatment of leprosy formed the subject of the early part of this lecture. This system consists of three parts—1st, hygienic; 2d, external applications to the diseased parts; 3d, internal medicines. The hygienic treatment, which is absolutely essential, and without which nothing but the most temporary improvement can be attained, consists of pure air, nourishing food, including a moderate quantity of fresh meat daily, abstinence from all salted meat or fish, and from pork, whether salt or fresh; a sufficient quantity of fresh vegetables must be given, and if the patients are habituated to its use, a moderate quantity of light wine may be given, but this is not necessary. The external applications consist of soap and water baths twice a day, and frictions over the whole of the skin with oil. Cocoa-nut oil is always used at Trinidad and Cumana, but olive oil might be employed if more convenient. The oil is well rubbed in and allowed to remain on for three or four hours, when the body is thoroughly cleansed by a soap and water bath. Oil of cashew-nut is applied to the tubercular formations by means of a small piece of sponge. This application is made at first only over a small portion of the skin, as large, for instance, as the hand, and when the effect of the first application is seen subsequent ones may be made larger if deemed advisable. The effect of the oil is to produce, after from twelve to twenty-four hours, vesication. The skin should, if possible, not be broken, and the exudation should be allowed to

remain and dry on, so as to form a crust. In about ten or twelve days this will fall off, leaving the skin clear and free from any ulceration underneath. If the parts are numbed, but not completely anæsthetic, sensibility will in general be completely restored by the first application; if the anæsthesia is complete it may require two or three applications to restore it. The applications should not succeed each other at intervals of less than a week. Where the feet are affected, as it is not convenient to use the cashew-nut oil for them, baths of hot cocoa-nut oil may be used night and morning. These must be superintended by a skilled attendant, who tests the heat with a thermometer, as the patient's sensibility will generally be either deficient or null, and if trusted to him he might scald the feet without knowing it. The heat should not exceed 100° Fahr. The internal medicines administered by Dr. Beauperthuy are perchloride of mercury (Ph. Br.), in doses of one-fifteenth to one-twentieth of a grain twice a day for adults. In cases where mercury is contra-indicated Dr. Beauperthuy gives carbonate of soda, in doses of ten grains to a scruple, twice a day. The treatment may be interrupted or modified if any complications occur. Should the mercurial affect the mouth, or cause any irritation of the intestinal tract, it should be discontinued, and the alkali given.

Mr. Wilson proceeded to remark that the local treatment by the cashew oil led to an exudative process which did not act merely locally, but performed the office of a general emunctory for the system at large, and represented the discharging ulcers that are known to exert a beneficial action in lepers, by apparently carrying off *materies morbi* from the body. Dr. Milroy, the lecturer stated, had informed him that the weak part of the Beauperthuy treatment is the long administration of mercury, and he opined that this retarded rather than promoted amendment in the health of lepers. The prospects, however, of preventive were more hopeful than those of curative measures in leprosy, and from all he (Dr. Milroy) had seen and heard, he had derived the conviction that leprosy is a constitutional cachexiæ of the whole frame (a *morbus totius corporis*), having analogies to scrofula. The fact, too, that the term king's evil was given to the disease in the West Indies lent countenance to this view. Great credit, Dr. Milroy thought, is due to Dr. Beauperthuy, since he was the first to grapple with the subject of the treatment of leprosy, and in that he did not cease till his efforts had forced the matter upon public attention, and was perhaps the first to emphasize the necessity of prescribing a good diet for lepers, a statement to which Mr. Wilson took exception, Dr. Beauperthuy not having any claim to be considered the "inventor of good living" for the leprosy, though Mr. Wilson allowed he laid great stress upon it. The Beauperthuy treatment, Dr. Milroy further stated, could not be regarded as one of mere medicinal measures, but one of diet and hygiene also. On the whole, according to his experience, the results of the inquiries led him to regard the treatment of leprosy as offering encouragement. In many cases the disease could be checked, and in many actually lessened; to talk, however, of a cure or perfect recovery in any instance would be, in Dr. Milroy's opinion, a misuse of language. Mr. Wilson concluded, in regard to the treatment of leprosy, that Dr. Milroy had not brought home from his mission any very satisfactory guide to actual therapeutics.

Lastly, in connection with the treatment of lepers, Mr. Wilson advocated the establishment in England of a leper asylum for the proper care and management of the leprosy. Considering how much supervision they need in the way of appropriate hygiene, in the regulation of diet and exercise, in the use of proper baths, frictions and manipulations of various kinds, in regard to the inunction of oils and the administration of internal and external remedies, he did not think it too much to say that this could alone be fairly carried out in a proper institution, and the knowledge necessary to the discovery of the more successful treatment of leprosy could only be acquired in such an institution.

LECTURES V. AND VI.

The two concluding lectures of the series were devoted to a particular account of psoriasis, its nature and treatment. Mr. Wilson first entered upon

an examination of the exact meaning of the words psoriasis, and lepra. He applies the term lepra to the disease which is designated psoriasis by almost all dermatologists. The term psoriasis, he believes, would be more fitly employed to designate chronic eczema in the squamous stage. Mr. Wilson stated that he could only accept the more common use of the word psoriasis under protest, and shall always say that the lepra of the Greeks is the disease to which the designation psoriasis is now generally applied. The professor next described, in detail, the varieties of psoriasis, and then proceeded to indicate the cause of the disease as an "inherited inherent debility" of nutrition, which must be removed by appropriate treatment if a cure is to be effected. Where there was no recuperative power in the organization the hopes of cure could only be small. The disease, Mr. Wilson affirmed, was less common amongst the manufacturing classes, who might be regarded as being more hardy and robust as a consequence of the invigorating character of their work. In the treatment of lepra Mr. Wilson said it was necessary to secure three objects: (1) The neutralization of the predisposition to the disease, and to alter the diathesis of the patient; (2) To remove the local effects of the disease; and (3) To aim at fortifying the constitution.

The first point was to be gained by securing to the patient the advantage of good air and diet, of bathing and exercise. As regards diet Mr. Wilson advised three meals, each equal in nutritive capacity, in the day.

For the removal of the eruption soap and water might be freely used, so as to remove the scales and stimulate the congested skin to healthy action. A soap and water bath was often efficacious. In certain situations—about the limbs and trunk, for instance—the use of water-dressing might be had recourse to. The wet dressings could be worn at night and repeated daily till the scales ceased to form. Soaking in the hip or long bath might be employed for a like purpose. In an institution perfectly equipped with bath appliances, the scales would soon be got rid of, but in private practice it was impossible to arrive at the same results all at once. If, after a few days, a patient returned to Mr. Wilson with scales still adherent, he was told that he had neglected to carry out the directions, and was advised "to keep down the scales by every possible means." But the wet-packing was not applicable to all cases of psoriasis: it sometimes irritated the parts. In some cases, where the scalliness was very excessive, pumice stone might be used to remove it. When the scales are removed the patches should be thoroughly rubbed with some form of tar, by the aid of a piece of flannel. The amount of tar required is small, but it should be infriected to procure its absorption. Mr. Wilson believes that the tar has not only action upon the skin, but a general action upon the system. Three kinds of tar were mentioned: the Pix liquida, juniper tar, and Barba-does tar, and Mr. Wilson declared their action to be similar, the least offensive for internal administration being the last named. The tar might be used locally in an undiluted form, or mixed with benzoated lard, or in the form of unguentum picis, and with potash where it is desirable to soften up indurated scaly patches. Mr. Wilson stated that the eruption yields most readily to treatment in the scalp and face. He did not specify the host of other remedies in vogue, save the unguentum hydrargyri ammoniatum. In regard to inflammatory leprosy, he believes the best local application is the benzoated zinc ointment.

The third indication was to fortify the constitution by attention to ordinary hygienic and dietetic principles, and then to administer arsenic, the specific for the disease, which acted as a nutritive tonic. Mr. Wilson mentioned that copaiba had failed in his hands to prove efficacious. Bichloride of mercury was also useful in some cases. In administering arsenic Mr. Wilson remarked that the dose of the vehicle in which the arsenic is given should be as small and as pleasant as possible, and the medicine should be given with or at the end of a meal. After mentioning the poisonous effects of arsenic, and declaring that he had never seen any ill effects, but only the best results, from the use of arsenic, Mr. Wilson concluded his course with an expression of thanks to his audience for the attention with which they had heard him.

ART. 75 — *Lectures on Leprosy.*

By ROBERT LIVEING, M.D., Gulstonian Lecturer at the Royal College of Physicians.

(*The Lancet*, March 22.)

Dr. Liveing commenced by stating that he found it impossible, in the three lectures which he should deliver, to do more than give a slight sketch of the history, geographical distribution, etiology, and pathology of leprosy. After affirming that the disease was clinically divisible into three chief forms, the macular, the anæsthetic, and the tuberculated, Dr. Liveing referred to the confusion which existed in the use of the terms elephantiasis and lepra by the Greek and Arabian writers, and pointed out that elephantiasis Græcorum was equivalent to lepra Arabum or true leprosy; that elephantiasis Arabum was the same disease as the Barbadoes leg, and that the lepra Græcorum was the psoriasis of moderns. He opined that amongst the Jews, and in the account given of leprosy in Leviticus, several distinct diseases were classed under one general name—such, for example, as eczema, psoriasis, scabies, and, possibly, syphilis; or at least these were not distinguished the one from the other in their earliest stages. Some of these maladies were deemed contagious, and the isolation of the lepers was not merely a religious rite but a practical piece of hygiene.

Dr. Liveing next referred to the spread of leprosy in Europe, especially in the Middle Ages, and particularly to the way in which the seclusion of lepers operated in exterminating the disease. He averred that the disease did not diminish in consequence of the prevention of its spread by contagion, but of the intermarriage of the lepers with the healthy. The horror with which the disease was regarded, and its known hereditary tendency, effectually shut out the lepers from society; so that they died out by degrees. The introduction of lepers into Western Europe in the Middle Ages has been attributed to the influence of the Crusades; but the disease was known in Spain, France, and England before the time of the Crusades. There were leper houses in Germany in the eighth century, and in England in William the Conqueror's time. Three things tended to support the idea that leprosy was introduced by the Crusaders in the Middle Ages. First, the disease rapidly increased about the time of the Crusades, and to those who believed in the contagion of leprosy, this spread appeared to be due to its operation. Secondly, the Crusades gave an impetus to the founding of hospitals. Thirdly, distinguished physicians of the West began to study the disease more and more. These three circumstances contributed to bring the disease into greater public notice, and gave it the appearance, in the eyes of historians, of having been largely introduced into the West.

Dr. Liveing proceeded by the aid of maps to indicate the position of the chief leper asylums in the British isles; from an examination of which it appeared that the majority were found in the east and south coast counties, and the towns on some of the larger rivers, especially the Thames, Severn, and Ouse. At first sight it would appear that the distribution of these leper-houses affords a pretty fair indication of the relative prevalence of the disease in various parts of the kingdom; but it may be that the provision of so many hospitals was to be explained by the fact that these parts were the chief centres of civilization at the time, and nearest the Continent, the disease not having been in reality more prevalent there.

The treatment of lepers in the Middle Ages was the next point to which Dr. Liveing referred. He then dealt with the question of the decline of leprosy. The disease did not arrive at its maximum of prevalence in all the countries of Europe at the same time. It was most prevalent in France and England towards the end of the thirteenth century, and somewhat later in Germany. It rapidly disappeared about the end of the fourteenth century from Europe, but lingered till the middle of the eighteenth.

The history of leprosy in the Middle Ages in Europe suggests several interesting questions: 1. How did it become common in Europe? 2. Was it at all contagious? 3. Did the mode of life of people at that time influence its progress? 4. Did the isolation of lepers help to check its extension? In regard to the first query, the records of the twelfth century show that it exhibited a sudden accession of strength, and spread from north to south, and subsided in like order. In its retreat it left behind foci of disease under favoring circumstances—in fact, there was an *epidemic* increase of a disease before *endemic*. With regard to the second query, it would appear that though not contagious, many of the Crusaders acquired the disease in the East, and transmitted it hereditarily at home. With regard to the third question, no reliable answer can be given, for the writers of the Middle Ages held very absurd notions as to the causes of disease, and all and every kind of food in turn was condemned by one or another. With regard to the fourth question, Dr. Liveing stated his belief that the isolation of lepers tended to check the transmission of the disease hereditarily by preventing marriages with the leprous.

In his second lecture Dr. Liveing sketched the geographical distribution of leprosy at the present day in particular countries, in relation to the external circumstances of the climate, soil, and the occupations of the inhabitants of those countries or districts, and other points connected with the etiology of the disease.

In speaking of Norway, Dr. Liveing pointed out that during the last thirty years the number of lepers had quadrupled. On the west coast of Norway the people lived upon bad food, both animal and vegetable, bad fish, sour milk, rancid butter, filthy cheese, unwholesome bread, and the like. The corn they used was cut green, and the grain itself was poor and musty. The occupation of those in the leprous districts was that of fishers. In Sweden leprosy was once common; but when the herring shoals left its coast and went to the Bergen shore, leprosy lessened in extent, and coincidentally with an increase in agricultural pursuits and cultivation of the land. In Faroe and Iceland similar results have occurred in regard to the disease. On the shores of the Baltic, and in parts of Russia, conditions answering to those of the Norwegians amongst whom leprosy prevails, are found. In the Mediterranean district leprosy is endemic, especially in Crete. The Cretans and the Norwegians are alike in regard to the character of their diet, the food of the former consisting of bad salt fish, rancid olive oil, bad bread, bad water, and the like; whilst the climate of Crete, unlike that of Norway, is semi-tropical. Dr. Liveing, in passing, remarked that the rigid by-laws enforced in some parts to secure the exclusion of the lepers in the countries failed to check the spread of the disease so long as lepers have married; and in all the cases now referred to the climate *per se* has had little effect upon the disease.

Dr. Liveing then referred to Africa, where leprosy is to be found on the coasts; to the Cape of Good Hope, where it exists as an imported disease amongst the imported races, and not amongst the aborigines, and in connection with a splendid climate; to Brazil, where the disease is rare on the coast, but exists in the interior; to Central America, where the disease is to be found amongst the descendants of the Spanish emigrants, and fish is seldom eaten by the infected; to Mexico, where it exists in the high inland plateaux, and not along the coast; to New Zealand, where the people consume putrid maize or potatoes; to certain islands where the people live upon a fish diet and bad bread, and the inhabitants are fishers and poverty-stricken; and to India, where leprosy is not equally common in all parts or among all castes, but where lepers abound in greater numbers in rural districts, where the disease is more common on the coasts, rare in dry and well-drained and cultivated districts, where it is found that elevation *per se* has little effect on the prevalence of the disease, and where the low caste Hindoos and Mussulmans are most affected. Dr. Liveing's object was to show that leprosy prevailed in countries possessing every variety of climate and people, and that climate *per se* has little effect upon the disease, and especially on its causation.

Dr. Liveing next proceeded to deal with the etiology of leprosy. Of the primary cause nothing was known, and he could only deal with secondary causes,

including climate, soil, race, deficient hygiene, diet, hereditary tendency, and contagion. These varied in the degree to which they severally operated. As regards soil, it was evident that the disease exists mostly along seaboard and in marshy districts. India appeared to offer an exception, but still the disease on the whole is more common in that country along the sea coast. Dr. Liveing pointed out that the development of agriculture and drainage operations constituted, as it appeared, the great preventive of leprosy, and these were carried on more in inland parts than on seaboard, which explained perhaps the difference in the prevalence of leprosy on sea coasts and in inland parts; hence district *per se* had little influence upon the disease. As regards race it was difficult to form an opinion, because other factors came into operation in connection with that of race, such as mode of life, occupation, and the like. As regards hygiene, it was doubtful if that had any very special influence, but probably bad dwellings, uncleanness, and bad clothing favored the development of the disease. As regards diet, it appeared that one of the most common kinds of food taken by the leprosy was bad fish, and Dr. Liveing referred to the views of Mr. Hutchinson and others upon this point, but he concluded that the question to determine was not so much whether eating bad fish *per se* caused leprosy, but whether some special element in the diet of lepers, of which fish formed a chief part, did not exist to operate as a special cause of leprosy, just as the active principle of *Lathyrus sativus* produces paraplegia, or ergot ergotism. It is true that people who live in districts where leprosy is common eat much fish, but so do those who live in districts where intermittent fever is common. Dr. Liveing thought that probably any decomposing food taken constantly and in large amount might cause leprosy, and as decomposing fish is an article consumed largely by those who become leprosy, it had been specially credited with causing the disease.

In the early part of the third lecture Dr. Liveing continued his examination of the predisposing causes of leprosy. He fully allowed the influence of hereditary peculiarity in the genesis of the disease, as shown by the statistics of Danielssen, Boeck, and others. The disease was mostly confined to certain families where it occurs endemically in small districts, and it exists in an inverse proportion to the degree in which civilization had influenced the attacked communities; and those were mostly infected who were isolated by special local barriers, by caste, and other similarly operating conditions, among which free intermarriage would of course be most common. Dr. Liveing believed that the hereditary character of the disease was not of the same perfect kind as in syphilis, but it partook rather of the nature of the predisposition needing the operation of external circumstances to cause it to issue in the development of the disease, as in cancer and phthisis. In regard to the question of contagion, Dr. Liveing agreed generally with the conclusions of the Leprosy Committee of the College; but he mentioned in detail certain occurrences in Norway in which it was supposed that the disease had been conveyed from person to person by the acarus, and referred especially to the case of a family, four of the members of which were presumed to be infected in this way; but he concluded that the facts only admitted the inference that four members of one family became lepers in a place where leprosy is endemic. He then stated that there is the strongest ground for the belief that the disease in South America and other districts is an importation, and is spreading amongst the aborigines under conditions which do not admit of the possibility of hereditary transmission having operated as a factor in the production of the spreading disease; and he referred to the facts recently brought to light touching the origin and dissemination of leprosy in Honolulu, though he admitted they required verification. He likewise mentioned several instances in which the disease spread from one member to other members of certain families where there could have been no hereditary transmission; and stated that the point to be solved was this: Do the natural relations of the country alone explain the development of the disease under these circumstances?—for if not the disease must be communicable. But he gave a guarded opinion upon the subject. He, however, inclined to the belief that the disease was not contagious in the ordinary sense of the word, but might be imparted by the imbibition of the excreta of lepers, just as cholera and typhoid

are communicated; but inasmuch as the action of the poison upon the system was very slow, and did not develop the results of its operation for a long while, the connection between the imbibition of the leprons poison and the outbreak of leprosy was difficult to trace. As regards the influence of sex, Dr. Liveing gave reasons for believing that the sexes were, in reality, about equally attacked by leprosy.

The general conclusions in respect of etiological considerations at which he arrived were that the *vera causa* was unknown; that amongst secondary causes, diet and hereditary predisposition were the most important; that climate, soil, and race were only slightly influential as factors in the genesis of the disease; and lastly, that, if not contagious, the disease is capable of being propagated from person to person by the imbibition of the excreta of lepers.

Dr. Liveing next entered into a clinical description of the main features of leprosy in its different varieties and the morbid anatomy, which included a digest of our present state of knowledge on the subject.

Speaking next of the alliances of leprosy, Dr. Liveing declared the latter to be akin in character, clinically, to maladies of the scorbutic class—such as ergotism, scurvy, pellagra, the button scurvy of Ireland, and the disease induced by the Lathyrus—due to defective or injurious food. He said it was impossible to find another disease more like it in general features and course than pellagra; and he pointed out the points of resemblance, and especially as regards causation. An incidental allusion was made to the question of the cure of the disease, which was pronounced to be unknown; and Dr. Liveing concluded, after emphasizing the importance of employing preventive measures if we wished to make any impression upon the disease, by thanking his audience for their attendance and attention.

ART. 76.—*The Pathology of Leprosy; with a Note on the Segregation of Lepers in India.*¹

By H. V. CARTER, M.D., Bombay Army.

Communicated by Dr. SYMES THOMPSON.

(*The Lancet*, April 5.)

In this paper—the result of observations made in Western India during the years 1860 to 1871—leprosy is considered as a whole, and its diagnostic characters are stated to consist in (a) skin changes, either produced by the well-known “tubercles,” or evidenced by alterations of rather atrophic character, which result in a form of “eruption” corresponding in its typical manifestation to the “Leuke” of classical Greek writers, now widely known in Western Asia as “Baras,” and having, it is thought, affinities with the “lepra” of Willan, &c., only that scales are wanting, owing to tropical influences on the skin. The name *Lepra leprosa* is suggested as suitable to this eruption. Superadded to these visible changes is (b) a prior and progressive impairment of the functions of the cutaneous nerves and branches, the structural alterations in which are regarded by the author as the characteristic lesion of leprosy. Hence result the marks presented by lepers, and one or other of which is the only infallible sign of their disease; the author knows of no characteristic prodromata. Subsequent changes are slow in progress, and are indicative of malnutrition of the frame both local and general, and hence susceptibility to corresponding hurtful influences. There are no symptoms of visceral lesions peculiar to leprosy; and while it is true that lepers die bearing the marks of their disease upon them, yet there is neither order nor uniformity in the time or mode of their disease.

Next are considered the morbid anatomy and histology of leprosy, and it is stated that the structural changes observed are due to exudation or deposit in the skin and appertaining nerve-trunks of a firm, translucent, colorless, or pale-reddish material, which may be distinguished by the borrowed terms hyalin-

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, March 25th.

fibroid and hyalin-granular. As regards the skin, conjunctiva, and adjacent mucous membrane of the mouth and larynx, this deposit (here hyalin-granular) first appears within or immediately beneath the membrane proper; accessory organs, and even the bloodvessels, are secondarily involved; but it has been noticed that the tactile corpuscles disappear before other less sentient elements. As regards the nerves, this deposit (here hyalin-fibroid) first appears between the individual nerve-tubules, and within their sheath—i. e., the neurilemma of the funiculus; the outer envelope of connective tissue is hardly changed. By accumulation of the new material the tubules are separated, compressed, emptied, and eventually destroyed.

The microscopic characters of this leprous deposit are then referred to. The material looks exudative, but may be derived from proliferation of connective-tissue corpuscles; it undergoes slight development, and is susceptible of degeneration. In sixteen autopsies of lepers consecutively dying in hospital, no trace of deposit was noticed in the muscles, bones, or any of the viscera. The brain and spinal cords were wholly free from such deposit, etc.

Then are mentioned the general characters and distribution of leprosy in Western India. Reference is made to the author's late report on this subject, published in the *Transactions of the Medical and Physical Society of Bombay* for 1871; the previous volume for the year 1862 containing a description of the symptoms and morbid anatomy of leprosy.

Particular attention is invited to the three circumstances, that the disease is capable of being hereditarily transmitted, that society in India is minutely subdivided by caste regulations into sections within which alone is marriage permitted, and that certain races (the primæval) are apparently more largely affected by the disease than any others: hence certain obvious inferences.

The author adds that neither climate nor endemic influence has been shown to favor or check the prevalence of the disease; faults of diet, hygiene or habit equally fail to account for its varied distribution. The population generally is affected to the extent of 1 in about 1000 inhabitants, but the proportion differs in the several races, and hence in localities occupied by those races more predisposed than others.

The seat, nature, and causes of the leprous disease are then inquired into.

It is affirmed that, so far as manifested, its seat is the cutaneous system, evidence to that effect being negative and positive. The latter includes certain interesting features revealed on dissection, which are pointed out; thus, the cutaneous nerves are affected only, or chiefly and primarily, in that part of their course between the skin and the deep fascia of the limbs or trunk; and when the deeper-seated nerve-trunks of compound function are diseased, it is only their sensory elements which appear to be affected, and often those in continuity with skin-nerves; details are given. It is added that motor paralysis is seldom marked in lepers who can crawl on, or bend, the stumps, which are sometimes all that remain of hands and feet. The author considers that there are trophic nerves in connection with those termed sensory; and that nutrition, as a process, may be directly influenced by the nervous system. It is submitted that all the essential phenomena of the leprous disease may be traced directly or remotely to the characteristic nerve-lesion.

As to the nature of leprosy, it is briefly stated that the existence of a dyscrasia or primary blood-change seems hypothetical and even needless; it may be said that the proximate cause of leprosy resides in a faulty condition of certain tissues of the integument—a defect perhaps of development, certainly a quality transmissible to offspring.

Etiology of Leprosy.—Having regard to the fact that the inherited form of the disease is identical with that not known to be derived, the author surmises that the only true cause of leprosy may be hereditary or transmitted taint; or, in other words, a latent form of the affection itself. Respecting contagion, or inoculation, as causative influences the author remarks on the absence of crucial facts. The grand test is necessarily wanting; and hence variety of opinion dependent on circumstances. As to endemic influences, it has been found that no one feature of air, soil, or water can be connected with the presence or frequency of leprosy. Europeans living long in India are virtually never affected with the disease. That malaria and leprosy are correlated does not appear.

An appendix has been added to this section of the paper referring more especially to the views of Professor Virchow.

Regarding the added note on the segregation of lepers in India, the author brings the subject forward rather to elicit opinion than to make assertion. It does, however, appear to him that the decline and extinction of leprosy in Europe during the Middle Ages is well and fully explained by the close, even if harsh, restrictions under which lepers were put by law and custom; and holding this view, he would venture to recommend segregation as a fit measure for adoption in India, where the disease has been long established, shows no sign of diminution, and is constantly productive of much harm and suffering. Nor does there seem any other hopeful way of eradicating leprosy; for in the author's opinion, the view that improvement in hygiene and general progress will, or has, led to the extinction of this disease, is not sustained on a wide survey of available data.

ART. 77.—On Three Cases of a Peculiar Form of *Molluscum Fibrosum* in Children.¹

By JOHN MURRAY, M.D., Assistant Physician and Joint Lecturer on Pathology at the Middlesex Hospital, Assistant Physician to the Hospital for Sick Children.

(*The Lancet*, March 22.)

The author communicated detailed particulars of the condition of the patients. All three cases occurred in the same family. The eldest, a girl, seven years of age, presented a variety of cutaneous growths on the face, ears, neck, fingers, and toes. Those on the face were of the nature of verucca plana; those on the ears of connective tissue and dermal hypertrophy; and, from their size and prominence on the margin of the helix, gave to the child a peculiar appearance. The affection on the neck assumed the form of crops of smooth warts, hard, pale, and with a glistening surface. The isolated cutaneous growths of the fingers were smooth warts, and few in number. The most remarkable phenomena, however, were the following: There were extensive connective tissue growths, forming frequently distinct and circumscribed tumors, reaching to the size of an orange, on the face, scalp, trunk, and extremities; these growths were rapid in their increase, painless, deeply discolored by extravasation of blood, and moderately soft and elastic. In bony situations there were occasional periosteal enlargements. The last phalanx of the fingers, with one exception, and several of the toes, were hypertrophied to from three to six times their natural size; the enlargement was due apparently to irregular connective-tissue increase and hypertrophy of the dermal structures. The nails were correspondingly increased, and marked with transverse furrows. The temperature, which occasionally became elevated for a few days, seemed to point to intermittent increase of the growths, for on one occasion, at least, the extensive formation of new growth over the back was coincident with a decided elevation of temperature lasting for some days. The tendency of the tumor on the scalp was to increase until ulceration of the skin and sloughing of the tumor ensued. The gums were greatly hypertrophied, covering up almost entirely the teeth; they were fungous and papillomatous in appearance, and grew rapidly again when cut away.

The disease was more or less symmetrical on both sides of the body. There was no glandular affection, and the viscera were healthy. The child was deaf, but very intelligent.

The other two children, aged four and two years respectively, presented the enlarged gums and slight cutaneous affection, and the elder child had only recently exhibited an enlargement of the end of one of the fingers. This child presented also certain peculiar mental and moral phenomena, and gave little promise of speaking well.

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, March 11th.

The disease in all three cases had commenced a few months after birth. The eldest child in the family, a boy, ten years old, presented none of the symptoms found in the others. The parents were first cousins, but healthy. There was no evidence of syphilis or scrofula in them or in their history. The children's grandmother was stated to have died of consumption, but with this exception the members of the family were long-lived and remarkably healthy. There was no similar affection to that of the patients in the parents or any of their relations. The three affected children were born in a wretched and damp dwelling, and exposed to bad hygienic conditions most of their life. The eldest, and unaffected child, resided with the rest of the family, but was, during the early part of his life, not subjected to the same unfavorable hygienic conditions as the patients. The whole family had, however, for the past year lived in a good habitation, and otherwise comfortably; still the disease advanced in all the affected children. Several of the subcutaneous tumors had been removed, and exhibited microscopic characters allied to fibroma, with cartilaginous-looking structures in parts. Dr. Murray considered that the disease should be placed in the group of *molluscum fibrosum*. The enlargement of the gums and ends of the fingers, the deafness, mental and moral symptoms present in one or more of the cases, the symmetrical character of the affection, and particularly the occurrence of three cases in one family, were remarkable and in many respects unique features in the disease. He considered that the bad hygienic condition in which the patients had been placed may have acted as an exciting cause of the affection, but he thought the predisposing, if not the sole factor, to be the blood-relationship existing between the parents.

ART. 78.—*Report of a Case of Molluscum Fibrosum or Fibroma, with Observations.*¹

By GEORGE POLLOCK, F.R.C.S., Surgeon to St. George's Hospital.

(*The Lancet*, March 22.)

A woman, aged thirty-three, was admitted into St. George's Hospital with tumors of the skin, such as are known as "*molluscum fibrosum*," or "*fibroma*," and consisting apparently of excessive hypertrophy of the connective tissue. The patient had been the subject of these growths from childhood; they were small in their early condition, but had been slowly growing and increasing in number. The tumors occupy various positions; there are three large ones, and over one hundred smaller ones of various sizes, in different parts of the body; some as small as a split pea. One large one is attached to the back of the head, and is of the size of a small melon. Another occupies a space over the right shoulder, between it and the root of the neck. The most remarkable and the largest commences on the right side of the neck, by a pointed extremity, and is seen to extend below the umbilicus. Its attachment extends from the above point to the upper margin of the right mamma, and increases in breadth as it is traced from the neck to the breast. It consists of a long, thick, and broad pendulous flap of skin, about eighteen inches in length. Its anterior surface is thrown into several folds, which give it somewhat the appearance of coils of intestine. The general color of the skin covering the larger tumors is darker than that of the rest of the body; its surface coarser and more rough, and pretty uniformly marked by obstructed orifices of sebaceous follicles. Sensation over the larger part of this large mass is impaired. A slight touch over the greater portion of the surface is not detected, but more severe handling is readily felt. In addition to these three large masses, various other tumors occupy the trunk; some solitary, some clustered; some with broad base, others pedunculated; one may be seen on the forehead almost flattened, while on the forearms are many suspicious spots of commencing future growths. One rather larger on the front part of the neck was partially removed, but has since increased in size.

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, March 11.

When admitted the patient was in a very low state of health, and the removal of the portion alluded to was followed by a good deal of suppuration; but her health being greatly improved since then, removal of a large portion of the largest growth was proposed, and was much wished by the patient.

A microscopic examination by Dr. Whipple of the portion removed, as also of a second small tumor which was snipped off, gave the following results: The tumors were entirely covered by layers of epidermis and rete mucosum, resembling in every respect that of healthy skin. Immediately beneath and closely connected with the rete was a layer of wavy, well-defined fibrous, mixed with a small amount of yellow elastic tissue, which in many places exceeded in thickness that of the epidermis and rete together. Proceeding inwards, the fibrous tissue which constituted its bulk became split up into separate wavy bands, varying considerably in thickness; and between these bands was an abundant growth of small, round, or oval cells, which were closely aggregated in large groups, or arranged in lines between delicate strips of fibrous tissue. In the central parts of the tumor, fibrous tissue, mixed with yellow elastic tissue, abounded; the fibrous tissue was less dense and more wavy, was split up into more distinct bands, separated from one another by wider interspaces, which interspaces were either empty or occupied by the cell-growth above mentioned. The tumor was well supplied by bloodvessels. In the larger piece sebaceous and sweat glands were present; occasionally, though rarely, a hair was found, always presenting a healthy appearance. The growth was due to excessive hypertrophy of the connective tissue, and partly to abundant cell-growth occupying interspaces between the bands of fibrous tissue.

Virchow has published an engraving of a remarkable case of this disease, which represents numerous small growths over the whole body, and one very large one, which hung over the hip, and weighed some thirty-seven pounds. A somewhat similar case is to be found in the catalogue of Guy's Hospital Museum, illustrated by wax models of the tumors of the body; and in this case there was also a tumor at the back of the head, and one hanging down from the nates, some sixteen pounds in weight. This man died over eighty years of age. Another remarkable case is recorded in the Transactions of the Pathological Society, vol. xvi., in which the growth of the tumor occurred from the neck, and hung down below the umbilicus, very similar to the case of Mr. N. Hughes. There was also a large secondary tumor attached to the back part of the head and neck.

Dr. J. C. Warren has also described a peculiar case of skin tumor in his work on tumors. The tumor resembled a coil of intestine, and occupied the right side of the neck. It was removed, but returned in the course of some eighteen months.

It is worthy of remark that there is, to a certain extent, a correspondence in the position of the tumors in the cases alluded to. The trunk is most frequently the seat of the larger number of tumors, while the upper and lower limbs are often free. Little is to be said with respect to treatment; and, though there is a prospect of recurrence after operation, it is proposed to remove the larger portion of the anterior flap, as the patient is anxious to be relieved from the inconvenience she suffers from it.

ART. 79.—On Neurotic Nævis.

By Dr. THEODORE SIMON, of Hamburg.

(*Archiv für Dermatologie und Syphilis*, 1872, No. 1; *Archives Générales de Médecine*, Mars, 1873.)

The author proposes to give the name of *neurotic nævus* to those forms which Baresprung has designated as unilateral nævus, and for which he admitted, as for zoster, an intra-uterine lesion of the spinal ganglia. This form is characterized by its mode of distribution, which corresponds exactly to that of the spinal nerves. Simon distinguishes two varieties, regarding the affection from an anatomical point of view: 1st, the *trophic nævus* with hypertrophy

of the papillæ of the skin, pigmentation, and moderate thickening of the epidermic layer, without hypertrophy of the cutaneous glands or hairs; 2d, the *nævus of vaso-motor origin* with dilatation of the capillaries of the small veins, and the temperature of which is more elevated than that of other portions of the skin.

The lesion is sometimes limited to a single nervous branch, and at other times extends during extra-uterine life to other branches.

Simon bases his views on three cases which were under his own care and on two cases reported by others.

The first case he regards as an example of hypertrophic *nævus* corresponding exactly in its situation to the second branch of the fifth nerve. The patient was a young woman, aged eighteen years; the *nævus* was seated on the left side of the upper lip and extended as far as the median line; the outer limit extended from the left labial commissure over half of the space between the external angle of the eye and the helix; from thence a narrow portion ascended upwards and ceased just above the auricle. Within this narrow portion was found an isolated patch as large as a 50-centime piece. Internally the *nævus* was limited by the ala of the nose from its insertion to the root of the nose, the superior limit being formed by the left inferior eyelid. The mucous membrane of the velum palati, on the left side, and of the tonsil on the left side was strongly injected as far as the median line.

Simon quotes a second case, which was one of a *nævus of a vaso-motor origin* limited to the second branch of the fifth nerve. This was present in a young woman, and occupied part of the forehead, the superior eyelid, the back, the ala, and the point of the nose. The conjunctiva was slightly vascularized; the interior of the eye was normal.

To these cases is added one reported by Rayer, in which vascular *nævi* occupying the trunk, the extremities, and half of the buccal mucous membrane, were seated exclusively on the right side of the body of a young man, aged twenty-four years.

An analogous case has been reported by Gerhard. An infant, aged six years, an idiot, presented on the right half of the thorax an accumulation of papillomata disposed in streaks along the intercostal spaces; some of these were red and others pigmented; similar anomalies were presented on the right arm and over the left half of the face. Some of the teeth on the left side were smaller than corresponding teeth on the right side. The right half of the face was warmer and redder than the left.

Simon reports another case which was under his own observation. The patient was a female, aged thirty-one years, the subject of a congenital *nævus* corresponding to the frontal nerve, and in whom, when she was nineteen years of age, another *nævus* appeared over the external nasal nerve.

ART. 80.—*Treatment of Acne.*

By H. D. BULKLEY, M.D.

(*New York Medical Record*, January 15.)

An elaborate paper on Acne, read by Dr. Bulkley at the New York Academy of Medicine, and followed by an interesting discussion contains some observations on the treatment of this troublesome affection that may interest our readers.

Dr. Bulkley, differing strongly from the local pathology of the Germans, and believing in the internal origin of the disease in the great majority of cases, relies most on constitutional remedies, together with attention to diet and exercise. Constipation has in most cases to be combated, but not by ordinary purgatives, the abuse of which has brought discredit on their employment in the treatment of acne. Attention should be paid to diet, exercise, and regularity in answering the calls of nature; and, when medicine is required, most success is derived from the employment of minute doses of aloes, combined with iron, given repeatedly after meals, and gradually diminished as the required effect

is produced. He also prescribes a pill containing blue pill and compound extract of colocynth, of each two and a half grains, and one quarter of a grain of ipecacuanha, giving two such on alternate nights for awhile, and following then by Kissingen water. The dyspepsia which is so often present is usually of the acid variety, and much benefited by restriction in the use of starchy and saccharine substances, and of ale, beer, and wine, as also chocolate, fried substances, pastry, and coffee and tea in excess. When a stimulant is required, whisky or brandy should be preferred to ales and wine. Exercise in the open air is of very great importance, and neglect of it may be one reason why women are more liable to the disease than men. Dr. Bulkley has seen many cases injured by arsenic where this has been given in the early stages of acne; but he regards the remedy as serviceable later, when the eruption is drier and less inflamed, as a tonic having a special action on the skin. He has found acetate of potass serviceable in many cases, in doses of from fifteen to thirty grains, given in a considerable quantity of water between meals. It will not, however, effect a cure, tonics being afterwards required. Dilute nitric and phosphoric acids, with vegetable bitters, have also yielded good results, as also Kissingen water in pint doses before breakfast, the beneficial effects depending not upon its purgative principles, but upon its alkaline properties. Cod-liver oil, with iodide of iron, is useful in scrofulous subjects, and a mild mercurial course may be resorted to when there is suspicion of syphilis. Dr. Bulkley, although attaching by far the most importance to general means, finds that local means will hasten the cure, and the best of these is a lotion composed of sulphuret of potash and sulphate of zinc, of each a drachm to four ounces of rose-water. He has used collodion in order to contract the capillaries in acne rosacea, but without any permanent effect; and he has laid open the veins in this affection with some good results. One drachm of iodide of lead to one ounce of stramonium ointment has been of use in reducing thickening in indurated acne, and citrine ointment, diluted three times, has been of service in acne rosacea. Juniper and tar soap is of value when there is not much inflammation; but bichloride of mercury has not justified the frequent use that is made of it.

Dr. Weisse, after the correction of the constipation and dyspepsia attendant upon the disease, gives a decided preference to local treatment. After a thorough trial of the internal use of arsenic, he is convinced of its inefficiency. Iron, and particularly the iodide, he has found useful in scrofulo-anæmic patients. He is able to testify to the success of Gubler's treatment by glycérine, and he has found with him that the subjects of this disease usually exclude fats of all kinds from their food. He therefore gives from half a pint to a pint of cream daily, as also almond or olive oil, and he explains the successful use of cod-liver oil by the same theory. In topical treatment he regards as the first essential the careful emptying the follicles of their contents, which may be done by a fine needle and well-directed pinching of the orifices. Next, inflammation should be allayed by warm water rendered milky by kneading a bag of bran in it, and used as a douche for ten or fifteen minutes two or three times a day. After trying all the applications that have been recommended, he gives the preference to those which are not irritating. Chronic papular and tubercular lesions, however, require nitrate of silver or more powerful escharotics. For the last two years Dr. Weisse has used with advantage an ointment composed of suet carefully worked up and scented, and a powder of equal parts of subnitrate of bismuth and prepared chalk. Before going to bed the patient uses the hot bran douche, and after careful drying the suet is gently applied to the face and left on. In the morning the face is not to be washed, and is to be freely powdered with the powder by means of a puff. In ten or fifteen minutes this is to be brushed off with a very soft brush, and carries the ointment with it. The redness and burning in acne rosacea are effectually allayed by an ointment consisting of sulphur ʒss, pulv. camphoræ gr. v, adipis ʒj, applied two or three times a day.

Dr. Peters considers acetate of potass as one of the most useful of remedies when the urine is scanty and dark-colored. In doses of from twenty to forty grains it is a mild and efficient diuretic, not only increasing the quantity of

urine, but also of its solid constituents, in a remarkable degree—acting as a depurative and eliminative remedy. The carbonate of potash, too, is an antacid, alterative, and diuretic, and in inflammatory acne ten or more grains may be given with from three to five grains of nitrate of potash a few hours after meals. Borate of soda is a refrigerant, diuretic, and emmenagogue, in doses of five to thirty grains; and Copland strongly recommends it for external use. A good lotion may also be made of—Borax \mathfrak{zj} . alcohol \mathfrak{zss} , water $\mathfrak{zviijss}$; or borax, \mathfrak{zss} to \mathfrak{zviij} water; or borax, \mathfrak{zss} to aq. flor. aurant. and aq. rosar. \mathfrak{ss} \mathfrak{zss} . It is especially useful in acne attended with amenorrhœa and uterine disease. When there is constipation with amenorrhœa, three or four grains made into a pill with one grain of aloes is very useful. The muriate of ammonia is very useful when there is amenorrhœa with bilious derangement—given in five or ten-grain doses three times a day in water, or made into a pill with aloes. It should also be used as a lotion. In very obstinate cases of acne indurata, and rosacea, the iodide of sulphur may be given in quarter or half-grain doses, increased to one or three grains, aided by an ointment containing five, ten, or even thirty grains to the ounce of cerate. The green iodide of mercury is useful, also, in the indurated variety, and especially when there is old chronic disease of the liver. It may be given in quarter or half-grain doses, combined with conium or aloes, and an ointment (five to ten grains to the ounce) may be applied. In obstinate and rebellious cases, the ammonia-chloride of mercury (five to ten grains to the ounce) is useful.

Dr. Howard states that he has used all the various local applications for acne, but had found none of great value. If evulsion can be provoked without too much irritation, the worst follicles may be emptied at the outset; and any remedy which prevents desiccation of the orifices and keeps the skin pliant is indicated. Constitutional treatment, according to the indications present, is what should chiefly be relied upon. Constipation is a very common coincident, and this is best treated by cream of tartar taken as a drink morning and evening in sufficient quantities to become slightly aperient. If there be indigestion, especially combined with acidity, the following powder may be given three times a day: R Pot. bitart. et sod., \mathfrak{zj} ; rhei pulv., gr. x; bismuth subnitr., gr. x; sod. bicarb., \mathfrak{ij} —divide in pulv. x. Under the use of this remedy the great majority of cases get well.

Dr. Taylor is of opinion that the essential point in topical applications should be to stimulate, and that want of success is often due to lotions being too mildly applied. He has derived benefit from sulphur, and especially from a lotion formed of lac sulphur \mathfrak{zj} , spt. camphor \mathfrak{zj} , water \mathfrak{ziv} . This should be rubbed firmly into the skin and allowed to dry over night, anointing slightly with cold cream in the morning. He has also derived benefit from iodide of sulphur ointment and from lotions of bichloride of mercury, from two to five grains to the ounce. Both he and Dr. Draper, at the College clinic, have seen marked advantage from the application of caustic potash solution (twenty to forty grains to the ounce), which is freely applied to the spots and allowed to dry, being afterwards washed off by very hot water. This is done at night, and next day the face is smeared with cold cream. Although acne is a troublesome affection, there is no necessity for the amount of polypharmacy that has been expended upon this disease, as relief can be obtained from sulphur, iodine, mercury, and potash. He has seen good results from mild ointments of red oxide or deuto-iodide of mercury, and in many cases from mercurial plasters. He has been disappointed in the use of the diachylon ointment recommended by Hebra, having found it slow and unsatisfactory. In acne of the nose the scarifications recommended by Hebra are absolutely necessary, and of great use. Not only should applications stimulate sufficiently, but they should not be changed too frequently, many failures being due to the remedies being continued for too short a time.

Dr. Caro states that he had been led by accident to discover that, while not neglecting internal remedies, obstinate cases of acne may be effectually treated by solar heat. He concentrates the sun's rays upon the part by means of a lens until the whole periphery is well burned. In a short time the skin becomes intensely red, and small vesicles full of serum begin to appear. These discharge

during three or four days, when the healing commences, leading to the final cure. Cloths wrung out in cold water soothe the pain caused by the heat, and promote free secretion. If the acne is only a follicular affection of certain parts of the skin, with abnormal secretion, this blistering action of the sun is the best remedy, although the process is a painful one.

ART. 81.—*Treatment of Acne.*

By ERASMUS WILSON, F.R.S.

(*Diseases of the Skin*, 6th edit., pp. 931; London, 1867.)

Mr. Wilson recommends nutritious and generous diet, air, exercise, amusement; tonics, the mineral acids and chalybeates; and his well-known ferro-arsenical mixture where there is debility of nutritive power rather than faulty assimilation. Locally, the hypochloride of sulphur ointment should be rubbed into the eruption at bed-time, and washed off in the morning with soap and cold water.

ART. 82.—*Lichenoid Eczema of the Face Connected with the Arthritic Diathesis.*

By F. M. LUTHER M.D.

(*Medical Press and Circular*, March 19.)

Dr. Luther has arrived at the conclusion that defective innervation of the fifth pair of nerves, caused by cerebral congestion, is a chief cause of lichenoid eczema of the face, which cerebral congestion again is due to the action of the rheumatic or gouty diathesis, latent or suppressed. The poison, instead of locating itself in the joints, floats about in the system, and is in some cases arrested in the brain, causing, with other disagreeable symptoms, want of sleep, and following on this, with so much regularity as to look like cause and effect, a lichenoid eczematous eruption most noticeable at the termination of the lashes of the fifth pair of nerves, and which is more amenable to treatment by cholagogues or aloetic purgatives, followed or alternated by chloral draughts, so as to insure sleep and abate the cerebral congestion, than to any other method of treatment. As acidity impedes the hypnotic action of chloral, Dr. Luther usually directs a glass of fluid magnesia to be taken half an hour before it. Purgatives alternated with chloral should be our chief reliance. A long course of Turkish baths may prevent relapse, which is very usual, since either exposure to cold or worry induces it.

ART. 83.—*The Nature and Treatment of the Constitutional Forms of Eczema.*¹

By E. D. MAPOTHER, M.D., Surgeon to St. Vincent's Hospital.

(*Medical Press and Circular*, February 19.)

The following facts seem to Dr. Mapother to prove that the gout poison is the cause of eczema:—

"1. Many other reliable observers have obtained uric acid and urates from the exudation of eczema, and their increase in the urine in the chronic stage of each disease is undoubted.

"2. There is great increase of fibrin in the blood, and it exudes and spontaneously coagulates on the raw surface.

"3. Both diseases are characterized by great tendency to œdema and desquamation, which latter, of course, is universal in eczema, and occurs in three-fourths of the cases of gout when localized.

¹ Read before the Surgical Society of Ireland.

"4. Gout can be shown to be hereditary in about three-fifths of the cases, and such predisposition can be shown in about an equal proportion of general eczema. The greater proneness of the male sex is observable in both diseases.

"5. Every one must have remarked the frequent concurrence of symptoms of gout or of rheumatic gout and eczema. The Chelsea pensioners, and the poorer agricultural people of this country exhibit this concurrence on the largest scale. I have seen very few cases of general eczema which had not been preceded or accompanied by what is so well known as acid or gouty dyspepsia.

"6. It is an aphorism of Hippocrates that gouty attacks are most frequent in spring and autumn, and the same may be undoubtedly said of eczema.

"7. The parts most distant from the circulatory force of the heart and least vascular for example, the extremities and ears, are the most frequent seats of each disease, as the urates are most easily deposited.

"8. And lastly, the treatment proven to be useful in gout is usually successful in eczema."

Lithia, Dr. Mapother has found of the greatest use, as would be anticipated from its extraordinary powers of combining and dissolving with urate of soda and uric acid. It never fails to act as a diuretic, and the derivative influence from the skin to the more extensive surface of the kidney can be easily understood. He usually combines colchicum with lithia.

In inveterate cases of eczema, arsenic may be necessary, and that metalloid is of great repute in chronic gouty and rheumatic affections.

Lastly, sulphur internally and externally, especially when used in the waters of Harrogate, Leuk, in Switzerland, and Lisdoonvarna, nearer home, is of equal efficacy in gouty and eczematous affections.

A few words about external treatment. Carbolic acid diluted with seven parts of lard, keeps the skin pliable, prevents suppuration and fetor, and has probably some astringent power.

In cases of universal eczema, which are rare—indeed, with the exception of one Dr. Mapother saw a month since in St. Louis Hospital, Paris, he has never met one,—starch baths, or still better, bran baths, are called for, to check the excessive cutaneous transpiration.

ART. 84.—*Report on Cutaneous Statistics, derived from Private Practice.*

By H. S. PURDON, M.D., L.R.C.P., L.R.C.S.I., Physician to the General Hospital and to the Hospital for Diseases of the Skin, Belfast.

(*Dublin Journal of Medical Science*, December, 1872.)

For a considerable time Dr. Purdon has kept a note of all cases of skin disease occurring in private practice. Any case of interest has been accurately taken as regards diagnosis, history, and treatment. In the present paper he notices briefly some of these cases.

Acne occurred chiefly in young people, the face and chest, especially the back, being the favorite seat of eruption. This disease, as defined by Willan, consists in "tubercular tumors slowly suppurating," and is an affection of the glandular apparatus of the skin, the seat of which is in the sebaceous follicles, arising either from scrofula, exposure to excessive heat, dyspepsia, derangement of the uterine functions, or debility. Scrofulous acne occur chiefly on the face, are large and dusky in appearance, whilst the syphilitic are distributed over the whole body, of a characteristic color, especially the areola at base, and when they disappear leave fine epidermic scales, that remain for some time. One case may be briefly mentioned. The patient, a young gentleman, aged sixteen, had his face literally covered with an extensive eruption of slowly suppurating pustules, with a red hypertrophic base. His health was excellent, and no assignable cause could be attributed for the disease. Dr. Purdon prescribed aperients, and opened every other day a few of the little elevations with a lancet, then through a capillary lymph tube injected, as recommended by Dr.

Ross, of London, a drop of nitric acid, which excited a new inflammation, so to speak, that caused obliteration of the follicle. Generally speaking, sulphur, either in lotion or ointment, is successful in removing the disease, provided there is not much acute inflammation present, whilst constitutionally tonics are indicated, as the citrate of iron and quinine. If the shoulders are the seat of the eruption removal of flannel from off the skin is absolutely necessary. Lichen of the face and in rare cases small lupoid tubercles are liable to be mistaken for acne. In very inveterate cases a strong creasote ointment is often serviceable.

Alopecia areata, which Dr. Purdon believes is non-parasitic, should be treated by frequent application of blistering fluid, cod-liver oil, or dilute nitric acid, or rum and sweet milk may be prescribed.

A case of *atrophy of the nails* was incurable; no syphilitic taint could be detected; debility and weakly parentage were considered to be the essential causes of the disease. In three cases of *hypertrophy of the nails*, all of which occurred in young ladies, a solution of gutta-percha dissolved in chloroform, and to which some carbonate of lead was added, was painted over the nails daily, after first scraping and filing them, and with good results.

All the cases of *condylomata* which had a broad base were touched as occasion required with a strong solution of chromic acid. This is a deeply penetrating caustic, having a great affinity for oxygen, and giving rise to but little pain. In *callosities*, removal of pressure and subsequently the use of a solution of potash was the plan generally adopted. The course and duration of a callus depends upon the extent and continuation of friction and pressure. M. Ver- nois in his work has given an accurate table of the callosities produced in the various arts and occupations, chiefly peculiar to the French, and which will well repay perusal.

In the treatment of *eczema* Mr. Erasmus Wilson's excellent instructions were adopted in all cases. It is well known that eczema in the earlier periods of life usually attack the head and face; in adults the body, and in old people the lower extremities. Arsenic was seldom prescribed, except in the case of infants, and then given in the form of Wilson's ferro-arsenical syrup. For eczema rimosum of the hands blistering, as recommended by M'Call Anderson, has been found most successful. If there is much infiltration of the subcutaneous tissue small doses of the bichloride of mercury are useful. The patient for some time is constantly to wear gloves, especially those made of India-rubber. Dr. Purdon has never observed this variety in those who work amongst greasy substances, as butchers for example. In lichen of the hands, which occasionally occurs as a sequel to an attack of eczema rimosum, Hebra's lithargyre ointment is a very good application, whilst in lichen of the face occurring in young people, and which may be mistaken for acne, our chief reliance is to be placed in salines, especially in purgative doses. After vaccination an eruption of an eczematous character occasionally occurs, usually attributed by the mother to impure lymph. These infants are generally of a strumous stock, or possess a delicate and easily irritated skin; but indeed any disorder occurring after vaccination is apt to be attributed to the operation.

For chronic eczema of the feet the Vienna plan of treatment by strapping the affected part with emplastrum plumbi spread on strips of linen is that to be recommended, provided the disease is chronic. Eczema is held to be a primitive lesion of the connective tissue with a secondary effect on the epithelial (*Annales de Dermatologie et de Syphilographie*). The diffuse character of the eruption is supposed to be due to the vessels being affected, also to the glandular apparatus of the skin.

Erythema.—Dr. Purdon mentions one case. A young gentleman, who appeared to his friends in perfect health one evening suddenly took ill; his face was swollen, eyes nearly closed, and skin presented a bright erythematous rash, whilst in some parts wheals were visible. His mother (although there was no sore throat) immediately put the attack down as one of scarlatina, a deception which he kept up. From peculiar smell, appearance of patient, and urine, and a few questions asked him privately, Dr. Purdon found the attack to

be due to the administration of copaiba, which he was taking for gonorrhœa, a drug that is occasionally useful in psoriasis.

Furuncular affections, occurring in people advanced in years, is often a grave complaint. Mr. S., aged sixty-eight, consulted Dr. Purdon in the summer of 1871, for an attack of boils, some of which were of large size, and very painful. The previous summer he had suffered from a similar attack, and which he attributed to eating a great deal of fruit; he was also gouty, and had been treated for some time by Sir Henry Thompson for an affection of the bladder, which, however, was now quite well, but he still drank a good deal of Vichy water, which had been prescribed. Mr. S. generally went to Harrogate every year. When Dr. Purdon saw him he was literally covered with boils in different stages, and confined to bed; pulse very weak and slow. Complained much of the pain caused by two large boils on back, in lumbar region, and which prevented any sleep. The urine was tested for sugar, but none found. The treatment adopted in this case was: beef-tea, given frequently, eggs, and champagne. Morphia at night, and an iron, quinine, and sulphate of magnesia mixture prescribed. To the boils various remedies were tried, as endeavoring to cause them to "abort," by touching the furuncle, in early stage, with nitrate of silver; to others pressure was applied; however, they generally suppurated, were then lanced, and dressed with an ointment of opium and zinc. Poulticing was out of the question, as it not only increased the pain, but also produced a new crop of boils, owing to tone of skin being still further weakened by heat and moisture. Several of the boils partook of the character of carbuncles, and were surrounded by what is called by Indian surgeons a "collar of brawn;" to these, the "core" of which was large and long in separating, nothing did so well as the household remedy of brown soap and sugar. The attack lasted fully two months, and was evidently due to a general break-up of the constitution.

Herpes.—This disease generally runs a rapid course, and the patient is well in a few days. In one case, H. zoster, Dr. Purdon prescribed ergot of rye and steel, as recommended by Dr. Woakes, who holds that herpes zoster is a neurosis, the eruption and neuralgic pain being due to effusion of liquor sanguinis from the ultimate branches of the artery, in the course of which the symptoms appear, and the cause of the effusion in this disease is due to a temporary suspension of the regulating influence exercised over the minute arteries by the sympathetic nerve fibres distributed there, and which suspension he believes ergot removes, by restoring the tone of the vessel, and allowing absorption of effused fluid to take place. The pain is caused by this effusion being between the fibrillæ of the sensitive nerve. As Dr. Austie has remarked, "herpes may attend neuralgia of any superficial nerve." Another case of herpes occurred in the person of an assistant-surgeon in the Royal Navy. He had been troubled for several years with herpes præputialis, and tried various remedies. Upon examination Dr. Purdon found that the vesicles, which had all recently burst, were chiefly confined to the prepuce, which was very long. Moreover, he had what may be termed "urethrorrhœa," accompanied by extreme morbid sensibility. Circumcision was recommended as affording the best results, an operation to which he would not submit.

Pytiasis versicolor Dr. Purdon has frequently observed in phthisical persons; lotions containing bichloride of mercury or sulphurous acid were generally prescribed. In some cases tincture of iodine answered better. For obstinate cases sulphur fumigations are more useful, and the solution of the chloride of arsenic internally to change the soil, so to speak, upon which the parasite grows.

Psoriasis is essentially a scaly complaint, relapses being the rule. Arsenic is the great remedy for it, especially Pearson's solution. Arsenic stimulates the epithelial structures. Quite recently Professor Gamberini, of Bologna, has recommended the alcoholic tincture of corrupted maize for internal use in psoriasis, and reports cases cured by it. The moderate use of alcoholic stimulants do no harm in psoriasis, and are, Dr. Purdon believes, beneficial. M. Hardy, of St. Louis Hospital, Paris, says that for certain forms of chronic skin mala-

deia, nothing answers so well as India-rubber dressings to exclude the air, keep in the perspiration, and thus macerate the hardened epidermis.

Pityriasis Rubra Acuta.—Mr. W. B., aged forty, married, of good constitution, had an attack of rheumatic fever in Australia, in 1865. Since his return to Ireland has been troubled more or less by rheumatic pains, but not latterly; is sometimes, however, dyspeptic. During the autumn of 1871 felt out of health, and complained of loss of appetite. Shortly after a red-colored blotch appeared on his chest, and in about two weeks spread over the entire body. He had been treated with arsenic, sulphur, mercury, etc., for some two months before Dr. Purdon saw him. He was confined to bed, very weak, and troubled with a slight cough; the urine was high-colored from urate of ammonia; skin of the whole body red, dry, and covered with brawny scales, which rapidly exfoliated. The hair was also falling out. Every day the bed was emptied of nearly a coal-bucketful of scales. The redness of the skin disappeared on pressure. The nails were easily broken, and of a dirty dry appearance. Without entering into details, Dr. Purdon says that the general symptoms were slight, compared with extent of disease. The treatment adopted was nourishing food, cod-liver oil, which agreed with him, and of which he could take a large quantity, and a tonic mixture of dilute nitro-muriatic acid, in gentian. To relieve the kidneys he had a dose of the compound jalap powder every third or fourth night. Locally a liniment consisting of oxide of zinc, olive oil, and lard, was smeared three or four times daily over entire body. No water or soap to be used. To the more obstinate parts, as the hands, a solution of nitrate of silver was applied. This patient completely recovered. True pityriasis rubra generally ends fatally.

Prurigo.—One genuine case of prurigo presented itself six years ago to Dr. Purdon's notice. The patient, a lady, aged fifty-six, lived in the County Meath. She stated that her life was rendered miserable owing to her disease. Little or no sleep could be obtained. Some years previously she had consulted the late Dr. Neligan, of Dublin, from whose prescription great benefit was derived. He had evidently regarded the disease as of neurotic origin, and prescribed very large doses of extract of *nux vomica*. The lady's skin was very dry, darker than natural, and wrinkled from absorption of fat. The normal lines and furrows were deepened. The pigmentation best marked where she had been obliged, owing to the itching, to scratch most. Dr. Purdon recommended her to use the Turkish bath, and prescribed a stimulating diuretic, whilst at night she had a full dose, ten grains, of quinine as an antiperiodic. Prurigo and pruritis have only one symptom in common—itching. The papules in the former are only found in places covered by hair. The *arrectores pilorum*, according to Dr. Derby, attain an unusual degree of development, and, through the increased traction exerted on the hair, there results a more vertical position of the hair, as also a hernial protuberance of the inner wall of hair follicle, and outer root sheath. Moreover, a serous exudation takes place at base of pruriginous papule. True prurigo is a rare disease in this country, although pretty common in Southern Germany.

For *Pruritus* the application of sulphurous acid proved successful. Pruritus ani is generally due to a fungus; the acid destroys this, and thus cures the disease. No doubt the portal circulation is often the fault, and which is relieved by aperients. A case of pruritus vulvæ occurred in a female of forty years; the mucous membrane exhibited not only the marks of scratching, but also little aphthous spots, like to those seen inside the cheeks of children due to the fungus, the *oidium albicans*. A lotion of borax, morphia, glycerine, and water relieved the disease. Bromide of ammonium was administered as a temporary sedative.

Seborrhœa furfuracea, or pityriasis capitis, commonly called "dandriff," was well-marked in one case, and which Dr. Purdon selects for the purpose of illustration. Mr. T., aged thirty, living in Lisburn, consulted the author for an affection of the scalp. His hair was rapidly falling out; scalp covered with white, thin, shining scales, which were continually undergoing separation. The loss of hair, as is usual in this disease, was most abundant upon the lateral regions of the crown. As he was slightly anæmic, iron was prescribed, and locally the head was to be sponged with the following:—Tannin, 12 grains;

either, 2 drachms; spirits of wine, 5 ounces; spirit of lavender, 1 ounce; and glycerine, 1 ounce. Pincus has shown the amount of the daily loss of hair in the first or seborrhœic stage of this disease, the minimum daily loss being from 30 to 70, and the maximum loss from 62 to 200 hairs. Dandriff, as is well known, consists in an excessive discharge of cells, abundant secretion from sebaceous glands, and fatty degeneration of sebaceous cells. In other cases, Dr. Fraser's, of Dublin, lotion was sometimes useful, and which consists of aromatic vinegar, tincture of cantharides, rum, and water. This is sponged daily into the roots of the hair.

Scrofuloderma shows itself by tenacity, persistence, and gradual extension to new tissue; also by participation of lymphatic glands and subcutaneous tissue, ending in suppuration. There is an absence of itching and generally of pain. It is better, Dr. Purdon thinks, to open early suppurating glands with a fine cataract knife, through a leech bite, and thus avoid a scar, which is due to subsequent puckering. If the gland has softened before it begins to adhere to the integument, a long incision should be made, and the cheesy contents pressed out. This ought to be done before the skin is involved. The form of a scar due to a single incision without loss of substance depends upon the direction of the cut, more scar tissue being required when the wound is made in a perpendicular direction to the normal tension than when it is parallel.

Kerion occurred in a child six years of age, whom Dr. Purdon saw in consultation with the late Dr. Patterson, of Belfast. The head was the seat of the complaint; the openings of the hair follicles were prominent, from which a peculiar secretion was poured out. The elevated swelling gave a boggy feel. The disease never suppurated. The glands in the neck were enlarged from irritation. Its parasitic nature was not easily recognized, owing to the peculiar mucoid discharged acting the part of a parasiticide. The examples of *tinea tonsurans* and *tinea circinata* were, with two exceptions, all in children. One of the exceptional cases occurred in a gentleman, aged twenty-eight, sent by Dr. Gray, of Castlewellan. The beard was chiefly involved. Dr. Purdon found a lotion of the hyposulphide of soda the most useful local application. The patient took arsenic and iron for several months, and to which is attributed the removal of the disease. In inveterate cases extraction of the hairs with Bazin's forceps is often required. A case of eczema marginatum or Burmese ringworm, supposed to be of parasitic origin, came for treatment; blistering was found of most use, subsequently Hebra's tincture of tar and black soap being used.

In conclusion, Dr. Purdon remarks, we are frequently asked by patients if they may use soap. As a rule, where the disease is acute, he thinks the use of any kind of soap to be injurious, and has little faith in so-called medicated soaps. However, it is sometimes necessary, for the purpose of cleanliness, to use soap, and one that will do no harm is to be recommended. For hospital patients Pear's transparent soap is recommended, and in private practice Rieger's "*Savon d'Amandes Amères sans Angles*," which is one of the most harmless and most delightful soaps Dr. Purdon knows of.

ART. 85.—*Treatment of Seborrhœa Capitis (Pityriasis Capitis).*

By LOUIS A. DUHRING, M.D.

(*Philadelphia Medical Times.*)

The author states that the first thing to be done in these case is to remove the masses of desiccated sebum and epidermis. This is accomplished by saturating the hair with olive oil, retaining it on the head over night, and then washing thoroughly with the following: \mathcal{R} Saponis viridis, $\mathfrak{z}\text{iv}$; alcoholis, $\mathfrak{f}\mathfrak{z}\text{ij}$. Misco. This preparation is known as *spiritus saponis kalinus*.

If the amount of secretion be not great, the use of oil may be dispensed with. The way of applying the preparation is to take a small flannel rag, wring it out in hot water, and pour upon it about a teaspoonful of the spirit,

which is to be rubbed into the head, adding a small quantity of warm water from time to time, so as to form a lather. This "shampooing" process to be continued for ten minutes, when the head may be washed with pure water and thoroughly dried.

The application is to be made morning and evening, and may have to be continued for some time. When the scales have been entirely removed, some such mixture as the following oil must be ordered: *R. Acid. carbolic, ʒss; ol. ricini, alcoholis, aa ʒij. Misce. Sig. apply after washing.*

The object of this application is to relieve the dryness and contraction of the skin and hairs resulting from the use of the spiritus saponis kalinus.

ART. 86.—*Clinical Lecture on Lupus.*

By HENRY EAMES, M.D. Dub., Physician to Mercer's Hospital, Lecturer on Practice of Medicine in the Ledwich School, etc.

(*Medical Press and Circular*, Dec. 25, 1872.)

There are three species of this disorder—*L. exedens*, *L. non-exedens*, and *L. erythematosus* or *hypertrophicus*.

L. exedens is the most destructive and disfiguring variety. It most commonly commences on the face, though its ravages are by no means limited to that part. The exact situation that it selects by preference for its assaults is one or other ala of the nose. The destructive process is sometimes almost simultaneously commenced on the inner and outer aspects, and advances equally from both sides till the cartilage is entirely destroyed. The commencement of the disease is usually a small papule or nodule, which is brownish-red in color, and causes no pain or itchiness. It appears hard, but if pressed with the point of a probe it is easily penetrated and bleeds freely. Other similar papules form around this first one, all, in some cases, shedding continually dry scales of epithelium. The disease may remain for a long time in this stage. These papules are composed of numerous cells proliferated from the rete Malpighii, mingled with granules of sebaceous matter, and traversed by a large number of bloodvessels, many of which are of new formation, chiefly derived from the papillary vessels which have increased in size. At the same time fibrous tissue of new formation is developed, which connects the papular growth with the tissues beneath. The inflammation, which is essentially chronic, is of a special plastic character, being in *L. exedens*, accompanied by a cellular hyperplasia, which, from incomplete nutrition, becomes the seat of an ulcerative process, with purulent exudation and formation of crusts.

As the malady advances from the papular stage previously mentioned, the skin around grows red, tense, and shining. A scab forms on the summit of one of the nodules; this quickly increases in size by the addition of fresh matter at the base, and thus the scabbing process proceeds till the part is covered. On removing forcibly the overlying scabs, the surface, which is sunk below the general level of the surrounding skin underneath, is coated with a thin purulent ichorous fluid, through which granulations are protruding. These vary in size, some being little larger than a millet seed, and others the bulk of a split hazelnut. These larger ones will, on examination with a moderate lens, be seen to be formed by the aggregation of a number of smaller granulations collected on a common base, which is often of a grayish hue. They are very vascular, bleeding freely when touched with a probe.

During the progress of the case a few attempts at cure will probably be observed, but renewed outbreaks of the disease will recur. At last, under suitable treatment, the healing process really takes place. From the whitish edge thin trabeculae stretch inwards towards the centre, and gradually the surface is covered with a thin, smooth, transparent layer of fibrous tissue, through which the subjacent bloodvessels are visible. The layer in time becomes thicker, concealing the vessels beneath, and closely resembles the cicatrix produced by a severe burn. But the process does not end here, for the inherent tendency of this tissue is to contract, and thus some of the most

hideous effects of the disease result. The eyelids are drawn down (ectropium), the lips are drawn apart, exposing the gums, and the cheeks are dragged towards the neck.

Whilst this healing is taking place at one portion of the sore, the malady may be extending at its edges. This form is called *Lupus serpiginosus exulans*.

Lupus non-exedens is characterized by the development of tubercles on the surface, as in the case of *L. exedens*; but there is this marked difference between these two varieties, that the non-exedens does not proceed to ulceration. Hence, we do not find the destruction of cartilages and bony structures as a consequence of this form of the disease. The cellular elements of the formation undergo fatty degeneration and absorption, whilst the fibroid tissue, attached to the deeper structures, contracts, depressing the surfaces and leaving a deep reticulated scar.

Lupus erythematosus commences as somewhat circular patches of persistent erythema. These at first are level with the surrounding cuticle, but after a time become elevated to a greater or less degree. The fibrous tissue of the corium is greatly hypertrophied. Overlying it is the new growth composed of numerous cells, which also fill the masses of the fibrous stroma. The sebaceous and hair follicles are also crowded with an exuberant formation of cellular elements. These cells also surround the hair shafts and the ducts of the glands, leading in this as in the other varieties to complete destruction of the glands of the affected part.

The gravity of this form of the malady varies much. Any *very* chronic erythema should awaken suspicion, such as a dull red patch upon the cheek, scalp, or nose, or chilblains, so-called, persisting during summer.

The amount of deformity left after the healing of *L. erythematosus* varies with the extent to which the heteroplastic and fibrous formations have proceeded. Whilst the edges are advancing, the disease at the point of origin shows a tendency to subside. Hard white interlacing cords are seen to traverse the centre, and the contracting force of the cicatrices may be as great as in either of the other forms. In some cases there is merely left a white glistening appearance of the integument traversed by a few enlarged red vessels.

The three varieties of lupus may all co-exist, or one may pass insensibly into the other, the tendency being usually to pass from the non-ulcerating to the ulcerating.

The disease may also appear on the mucous surfaces, only secondarily, if at all, implicating the skin. Thus the septum narium may be destroyed before the exterior of the nose is engaged. The palate or pharynx may be deeply ulcerated, dangerous narrowing of the throat being so produced. Lupus of the vulva, mons veneris, and genito-crural folds also occurs.

Dr. Eames cannot agree in the view that this disease is merely local. Having expressed his opinion of the constitutional origin of lupus in its various forms, he recommends a treatment addressed to the constitution as well as local applications. Of internal remedies he would assign the first place in merit to phosphorus. It is especially in cases where the disease has appeared in connection with failing nerve power that this remedy gives such happy results. In such failure, whether from overwork, continuous anxiety, excessively prolonged bodily labor, or venereal excesses, no medicine with which the author is acquainted will give results at once so striking and reliable. Dr. Eames is in the habit of giving the metalloid dissolved in oil, and inclosed in capsules containing 1-30th, 1-20th, and 1-10th of a grain of pure phosphorus. The first of these should be taken after meals, and if no symptoms of the drug disagreeing appear after a week, the 1-20th may be given, and after another week the 1-10th capsule. The symptoms alluded to are a burning sensation in the epigastrium, relaxed bowels, lassitude, loss of appetite, and a white silvery tongue. Should these present themselves the mineral acids in infusion of bark should be prescribed.

When the disease is connected with a history of struma, manifested either in the individual or the family, cod-liver oil with iodide of potassium and iodine

are recommended, as well as arsenic. Dr. Eames has not found this last drug at all so useful in this malady as in other chronic skin diseases. To the anæmic iron should be ordered.

If there be dyspepsia and mal-assimilation of food, nux vomica with the mineral acids in bitters is very useful, and generally pepaine will be a good addition to the treatment.

Local treatment must depend upon the condition of the sore, but should not be solely relied upon. When the disease is spreading there is a development of a cellular growth amidst the fibres of the surrounding cutis, which must be destroyed, whilst at the same time we endeavor by general remedies to remove the tendency to this heteroplastic deposit. The choice of the particular caustic does not so much matter. The acid tartrate of mercury, or potassa fusa, with an equal quantity of water, applied round the edges, will answer well, taking care, however, not to cauterize too large a portion at once. Others prefer nitric acid, chloride of zinc, or nitrate of silver, whilst others again favor the potential cautery or the galvano-cautery.

After such applications as the foregoing soothing remedies, such as lead lotion with opium, will be needed. When the granulations of the sore have the bluish-gray tint, a lotion containing Friar's balsam, with a little carbolic acid, will be found very useful. The erythematous variety usually requires stimulation, and the above will be a good application. The pyroligneous oil of juniper with olive oil is also an excellent stimulant.

When the part has cicatrized over it will be well to protect the newly formed tissue from the air by coating it over with collodion for some considerable time. Recollecting how apt lupus is to recur, the constitutional treatment should be long continued.

ART. 87.—*A Case of Melanodermy, extending over nearly the whole Surface of the Body; Sclerodermy restricted to the Fingers, with Atrophy of the Digital Extremities; Atrophy of the Right Half of the Face.*

By Dr. LEPINE.

(*Gazette Médicale de Paris*, No. 15, 1873.)

A widow, aged fifty-nine years, was admitted into La Charité, under Professor Sée, in March, 1873. She stated that her general health had always been good, although she had formerly lived in moist climates. At the time of her admission into the hospital she was strong and well, and her appetite was not impaired; she complained only of a change in the color of her skin and of slight impediment in the movements of her fingers.

About three years previously she first noticed a dark coloration of the skin; shortly afterwards she suffered from acute pain in the left arm, but this did not persist. About ten years previously the fingers of the left hand had been first attacked with the affection which they presented at the time of admission; six months later, those of the right hand were attacked.

On admission, the greater part of the surface of the body presented an abnormally dark coloration; the legs and feet were the only parts excepted. This coloration varied much in intensity; in the hypochondriæ it was deep brown and almost black; on the abdomen, chest, neck, and back it was brown, but not so deep; the thighs were much pigmented, but with this peculiarity, that they were the seats of numerous white patches where the pigment was wanting; the neck presented numerous traces of a pustulo-bullar eruption; the face and superior limbs and hands were of a light brown color.

The skin on all the digits was thin and like parchment; the coloration here was not deeper than that of the hands and forearms. One could not by pinching the skin, even on the dorsal surfaces of the digits, make a fold. The articulations of the fingers seemed to be somewhat enlarged, but there was no marked swelling of the peri-articular tissues; the movements of the fingers were impeded rather by the condition of the skin than by the consequences of a veritable arthritis. The fingers were not painful. The last segments were

much reduced in size, and reduced in length by one-half; the cutaneous sensibility of the fingers, even on the palmar surfaces, was much diminished; the fingers were naturally cold and never perspired.

There was marked asymmetry of the face, the duration of which the patient was not able to state exactly. Independently of the loss of the right eye, which had resulted from an accident, the right half of the face was smaller than the left. The skin on the right side was more delicate, but the difference between the two sides in this respect was very small; it depended in a great measure, apparently, upon a diminished amount of subcutaneous tissue on the right side; sensibility was diminished on this side. The tongue was quite intact.

Remarks.—"Although the co-existence of Addison's disease and of sclerodermy has occasionally been observed in the same patient, I have thought it necessary to prove that in this case the idea of Addison's disease must be rejected on account of the conservation of the patient's strength and of the good state of her digestive functions. Besides, it is known that deep coloration of the skin is accompanied in a great number of instances by sclerodermy. It has been attempted to explain the pigmentation by the idea of a stasis of blood in the veins, compressed by the indurated tissues (Auspitz). But even in admitting that this hypothesis has some foundation, it will not explain those cases where the pigmentation extends far beyond the limits of the induration, and particularly the present case, where the sclerodermy was very limited and consecutive to the appearance of the melanodermy. So far from explaining this latter condition by the action of a local influence, I am disposed to admit that it is often due to the same cause as that of Addison's disease.

"Habitual coldness of hands affected with sclerodermy is noted in the majority of recorded cases; the present case, in this respect, conforms to the general rule. It differs from the majority of cases, however, with regard to anæsthesia, which existed only in the cases reported by Gintrac, Rilliet, Bruck, and a few other authors.

"Atrophy of the phalanges has been frequently noticed in cases of sclerodermy of the hands.

"The face of my patient did not present the appearances of true sclerodermy. The very exact limitation to the right half of the face of slight atrophy of the subcutaneous tissues, and the absence of induration, lead me to regard the affection here as one known under the name of facial tropho-neurosis. The co-existence of this affection and sclerodermy, limited to one limb, has recently been recorded.

"To resume. Here is a woman previously submitted to the influence of humidity, who has been affected successively with: (1) melanodermy; (2) slight sclerodermy of the fingers, commencing in those of the right hand, accompanied by atrophy of the phalanges and anæsthesia; (3) atrophy of the right half of the face, with preservation of the general health. It is more than probable that these various affections are dependent upon some marked change in the nervous system. This case is more complete, in certain respects, than those previously published, and it seems to show the insufficiency of the designation of sclerodermy when applied to simpler cases."

SECT. III.—FORENSIC MEDICINE.

ART. 88.—*On the Treatment of Snake-Bites.*

By J. FAYRER, M.D., C.S.I., Hon. Physician to the Queen.

Dr. Fayrer, in his magnificent work on the Thanatophidia of India, shows the utter inutility of the so-called antidotes against the bite of poisonous Indian serpents, and summarizes as follows all he thinks can be done in cases of this kind:—

"Apply at once a ligature or ligatures at intervals of a few inches, as tight

as you can possibly tie them, and tighten the one nearest to the wound by twisting it with a stick or other such agent. Scarify the wound and let it bleed freely. Apply either a hot iron or live coal, or explode some gunpowder on the part, or apply either carbolic or some mineral acid or caustic. Let the patient suck the wound whilst you are getting the cautery ready, or if any one else will run the risk let him do it. If the bite be on a toe or finger, especially if the snake has been recognized as a deadly one, either completely excise or immediately amputate at the next joint. If the bite be on another part, where a ligature cannot be applied, or, indeed, if it be on the limbs above toes or fingers, cut the part out at once completely. Let the patient be quiet. Do not fatigue him by exertion. When or even before symptoms of poisoning make their appearance, give eau de luce, or liquor ammoniæ, or carbonate of ammoniæ; or, even better than these, hot spirits and water. There is no occasion to intoxicate the person, but give it freely, and at frequent intervals. If he become low, apply sinapisms and hot bottles, galvanism, or electro-magnetism over the heart and diaphragm. Cold douches may also be useful."

ART. 89.—*On the Treatment of Snake-Bites.*

By Professor HALFORD.

(*Medical Times and Gazette*, April 26.)

A supplement to the *Official Gazette of India*, of February 22, in a very voluminous paper, reprints Professor Halford's paper, "On the Treatment of Snake-bite," of June, 1870, from the *Australian Medical Journal*, and gives the remarks of the officers of the Indian Medical Service thereon. Professor Halford's paper contains a statement of facts, from which it would be in the highest degree irrational to withhold assent—viz., that a large number of persons who seemed to be dying, and probably actually were dying, from the bites of snakes in Australia, recovered after the injection of thirty minims of liq. ammoniæ (P. B.) into a superficial vein. Professor Halford thus summarizes the effects of the remedy: "The alkali soon reaches the heart; vigorous contractions follow; blood that was recently stagnating in the capillaries passes on; cut vessels which had ceased bleeding, bleed afresh; the temperature rises, the color improves, the muscles contract, the sensory ganglia respond to external impressions; the nearly quite inanimate mass is now animate; light and sound are perceived; the faces of friends are recognized." There is no doubt that the injection thus proposed would be a valuable remedy in certain cases of poisoning; but Professor Halford goes on to give a theory of the *modus operandi* of this remedy in snake-bites. He assumes that a something is introduced into the blood in snake-poisoning which has three effects—first, to destroy the fibrine and render the blood uncoagulable by the digestive virtue of some principle allied to ptyaline; secondly, to produce a great increase of white corpuscles in the blood, whether from the growth of germinal matter introduced by the poison, or from the increase of the white corpuscles (which seems to be Professor Halford's later view on the origination of some new corpuscles in the blood); thirdly, as a result of the foregoing, that oxygen is used up, and that the effects on the nervous system are due to imperfectly oxygenated blood. How Professor Halford believes that this is remedied by the ammonia injection, may be gathered from what we have already quoted.

Now, we need not quote Professor Fayrer, whose splendid monograph on the *Thanatophidia* of India we have more than once noticed, nor Dr. Shortt, of Madras, whose researches on snake-poison have long been carried on with the utmost industry and vigor, but there does not seem to be one of the hundreds of medical officers in India who can accept Professor Halford's facts or theories, so far as Indian snakes are concerned. If there be one thing more certain than another, it is that some snake-poisons—*e. g.*, cobra—leave the blood's power of coagulation unimpaired. Other snake-poisons—*e. g.*, daboia—render it quite fluid and uncoagulable, so that the patient, if he live long enough, bleeds from every mucous membrane. And yet these latter (viperine)

snakes are not so fatal as the former (or colubrine). Therefore, any appreciable change in the coagulability of the blood is no element in the fatality of snake-poisons. In the next place, practitioners in India positively deny the increase of white corpuscles, alleged to follow the bite of snakes in Australia. And lastly, the snake-poison seemed more nearly allied to aconite or some such deadly narcotic than to one which simply deprives blood of its oxygen.

In justice to Professor Halford, it must be added that his views seem sometimes to be misunderstood. He does not advise the *subcutaneous* injection of ammonia—*i. e.*, into the areolar tissue, as morphia is injected; on the contrary he insists that it shall be delivered into the current of blood within a vein. Moreover, he does not propose ammonia as an antidote to the poison (as white of eggs would be an antidote to corrosive sublimate, or quinia to ague), but as a means of rousing the heart's action, and enabling the victim to outlive the effects of the poison. But he is now fairly challenged by the Indian practitioners to repeat their experiments. Cobra poison can easily be sent to Melbourne; it can be administered in graduated doses; and then the power of ammonia, such as it is, may be set at rest once for all.

ART. 90.—*Treatment of Snake-Poisoning by Artificial Respiration.*

By J. FAYRER, M.D., C.S.I.

(*Indian Medical Gazette*, October 1, 1872.)

Dr. Fayrer, who has so frequently experimented with snake-poison, states, that since his return to England he has made some further observations on the action of cobra-poison.

"In the third experiment—the most interesting—a large, vigorous fowl was poisoned by injection of a couple of drops of the poison, diluted with water, into the thigh; it evinced the usual indications of poisoning, fell over with its beak resting on the ground, and went into convulsions—the comb and wattles becoming quite livid. At this stage the trachea was opened, a tube introduced, and artificial respiration commenced; as the blood became aerated, the lividity of the comb and wattles gave place to a bright florid tinge, and the convulsions ceased.

"On ceasing to inflate the lungs, the comb and wattles became livid again, and the convulsions recurred.

"This was repeated many times, always with the same result, until the artificial respiration was stopped, when convulsions due to non-aerated blood (asphyxia) closed the bird's existence.

"This seems to indicate the possibility of life being preserved, if respiration could be kept up long enough to allow of the elimination of the poison by natural, aided by artificial, means. Whether the injury done to the nerve-centres by the presence of the poison be of such a nature as to be irremediable, I cannot say (in severe bites I should fear it is); but evidently from this experiment, which I hope to repeat, benefit may be hoped for from artificial respiration; and I beg of you to notice this, that those who have the opportunity in India may repeat the experiment, and test its efficacy further."

ART. 91.—*On the Action of Cobra Poison.*

By J. FAYRER, M.D., C.S.I.

(*Indian Medical Gazette*, January 1.)

Dr. Fayrer states, "that the action of cobra poison, evidently in some, if not in all respects, resembles that of the curara or wourali, which kills by paralyzing the peripheral distribution of the motor nerves.

"Animals so poisoned have been recovered by artificial respiration, after being for hours in a state of seeming death. I do not yet feel at all certain whether cobra poison acts on the nerve-centres alone, or on the peripheral ex-

tremities, as in curara; perhaps it may be a combination of both. But it appears to me that this method of sustaining life by artificial respiration, which might be done in ordinary bites, offers the most reasonable prospect of enabling the patient to live until the excretory organs shall have eliminated the poison from the system. I at the same time cannot but express my fear that irreparable mischief may have been done by the poison, which may prevent recovery in cases where severe poisoning has occurred.

"I hope to pursue the subject further; meanwhile, I believe that the most rational ground of hoping for relief is indicated."

ART. 92.—*Treatment of Poisoning by Hydrate of Chloral.*

By Dr. ERLÉNMEYER, Jun.

(*Med. Chir. Rundschau*, Oct. 1872; *Brit. Med. Journ.*, Nov. 9, 1872.)

The author remarks that the quantity of hydrate of chloral required to produce poisonous symptoms is undetermined. The smallest quantity known to have produced poisoning is two and a half scruples; while, on the other hand, as much as 460 grains have been taken without danger. The symptoms of poisoning by chloral are, diminished frequency of respiration, redness of the conjunctiva, contraction of the pupils, lividity of the lips, and falling of the lower jaw; the state of the pulse has varied very much in several cases. The most important indication is the removal, as quickly as possible, of the chloral remaining in the stomach, or its dilution by water containing tea, coffee, or rum. The second indication is to restore the respiration. Not much benefit is to be expected from the use of strychnia, physostigma, morphia, camphorated ether, or ammonia, which are supposed to act as antidotes to chloral. Transfusion of blood may perhaps be found useful, as it has already been in poisoning by chloroform.

ART. 93.—*Poisoning by Carbolic Acid: Recovery.*

By Dr. MOSLER, of Greifswald.

(*Deutsch. Archiv f. klin. Med.*, x. 1.)

The author relates the case of a man who drank in place of his accustomed glass of "schnaps" one containing a mixture of between two and three drachms of carbolic acid. He immediately fell insensible, and was convulsed. When Dr. Mosler saw him eighteen minutes afterwards, the extremities were cold, the pulse scarcely perceptible, the heart's action irregular, the breathing stertorous; consciousness was lost, and he was in a state of intense trismus—in fact he appeared to be moribund. Dr. Mosler immediately had his mouth held open by a wooden gag, and poured warm water into the stomach through a tube; he then fixed an India-rubber pipe to the end of the tube, raised the patient, and bent him somewhat forwards; this was at once followed by the escape of a large quantity of fluid smelling strongly of carbolic acid. As consciousness did not return, Dr. Mosler, supposing that some of the carbolic acid had probably entered the blood and was acting on the brain, bled the man to the amount of about a pint. Consciousness then returned; the pulse became stronger, and the breathing more tranquil. The blood that was removed had an odor of carbolic acid. For some days the patient had irritation of the throat and slight gastritis; but was dismissed cured on the eleventh day.

ART. 94.—Report of a Case of Attempted Suicide with Petroleum.

By J. STEININGER, M.D.

(Centralblatt f. d. Med. Wissenschaften, July 13, 1872. American Journal of the Medical Sciences, April, 1873.)

The author relates a case in which a widow lady, forty-five years of age, in an attempt at suicide swallowed a pint of merchantable petroleum. What is remarkable, but slight indications of intoxication ensued; there was only slight pain in the region of the stomach, and but little febrile excitement. From the entire surface of the body was exhaled a strong odor of petroleum, while the breath was entirely free from it. It is somewhat curious that the urine received in a glass vessel presented floating on its surface a layer of petroleum 50 ccm. in thickness, not as a secretion of the kidneys, but as the effect of a kind of mechanical infiltration. The urine gave a slight alkaline reaction, and contained in every 1000 parts one of albumen, and was rich in pus and epithelial scales. For six days the smell of petroleum was given out from the patient's skin. Entire recovery finally ensued. In the outskirts of Vienna, Dr. S. remarks, petroleum is drunk by the common people, in the same way and for a similar purpose as ardent spirit is by others.

ART. 95.—Case of Poisoning by Nitrate of Potash at the Jervis Street Hospital.

Under the care of Dr. MACSWINEY.

(Irish Hospital Gazette, January 1.)

Dr. Macswiney relates a case of poisoning by nitrate of potash which confirms much of what is already known of the effects of a large dose, viz. :—

- 1st. That it is an irritant poison.
- 2d. That it sometimes causes very alarming symptoms.
- 3d. That there are *nervous* symptoms sometimes present, as indicated by the *stupor* in this case.
- 4th. That death, although seemingly imminent, does not always follow the most dangerous symptoms.

As to the treatment of such a case as the one recorded, Dr. Macswiney remarks that the indications are—(a) To remove the poison from the stomach. (b) To allay irritation. (c) To subdue inflammation.

ART. 96.—Case of Poisoning by Sulphuric Acid.

By THOMAS BOND, F.R.C.S., M.B. Lond.

(Medical Press and Circular, December 4.)

At a meeting of the Medical Society of London, on November 18th, Mr. Bond related an interesting case of poisoning by sulphuric acid. On the 28th August, C. B., a woman, æt. thirty-one, was found in St. James's Park on her hands and knees vomiting violently; was brought to King Street Police-station in a very exhausted state, but sufficiently conscious to make known that she had taken sulphuric acid. She appeared to be in great agony. Copious draughts of chalk-and-water were administered, and she vomited a large quantity of black matter, apparently food recently taken. She was removed to an infirmary, and during the night was delivered of a full-grown child. She rallied and gained strength, progressing favorably for a fortnight, when she complained of sickness and a difficulty in swallowing her food. On examination a large circumscribed swelling was observed commencing opposite the cricoid cartilage and extending down the course of the trachea two inches, moving on deglutition. Mr. Bond attempted to pass a stomach pump, and

also a No. 6. gum elastic tube, but without success. In a few days she was unable to take any fluid whatever. He was advised against the operation of gastrotomy, and instead he inserted a piece of stiff copper wire into a No. 6 tube, and after much difficulty forced it through the stricture and into the stomach, and injected sustenance twice a day, the size of the tube being increased. The swelling disappeared; but the patient gradually got weaker, and died on the 4th October. At the post-mortem: The mouth and fauces were found quite recovered from the effects of the acid, and on opening the œsophagus no trace of stricture nor any exudations, but complete absence of the mucous membrane. (Specimen shown.) The mucous membrane of the stomach was quite black and partially detached at the cardiac extremity, and underneath it patches of fibrinous exudation a quarter of an inch thick. The deductions Mr. Bond drew were—1st. That a stricture of the œsophagus may be safely dilated, and that probably the fibrinous exudation observed under the coats of the stomach had also taken place in the œsophagus, and was the cause of the strictures; 2d. That the operation of gastrotomy must have been ineffectual, as the woman died from the injury done to the coats of the stomach.

ART. 97.—*Atropine, an Antidote to Opium.*

By JAMES JOHNSTON, M.D., Medical Officer to the Chinese Hospital, Shanghai.

(*Medical Times and Gazette*, February 15.)

The conclusion Dr. Johnston has come to with reference to the treatment of cases of opium poisoning are:—

1st. That in mild cases, when the patient is seen within one or two hours after taking the poison, and is conscious and able to move about, with pupils uncontracted and movable, the ordinary treatment by emetics, etc., will usually suffice for recovery; but the greatest watchfulness and care are necessary, for even in the mildest cases dangerous symptoms speedily set in. As a rule, whenever there is great drowsiness, with contracted pupils, after the evacuation of the contents of the stomach and moving about of the patient, it is advisable to bring the system under the influence of atropine at once.

2d. The state of the pupils is of the first importance. Whenever they are firmly contracted to a pin's point, there is danger; although the patient for the time may seem but slightly affected, sooner or later coma inevitably comes on. It is, therefore, advisable in such cases to use atropine at once.

3d. That in cases when the nervous centres do not respond to the cold douche and moving about the patient, it is not only useless, but mischievous, to persist in attempts to drag the individual about, as it only increases the exhaustion, which is one of the greatest dangers in cases of opium poisoning. The treatment for such cases is to place the patient in the horizontal position, and inject the atropine subcutaneously, and, if necessary, assist with artificial respiration, and, in case of exhaustion, to strengthen the circulation by applying warmth and counter-irritation to the limbs, and by the administration of stimulants, such as coffee, ammonia, brandy, etc., internally.

4th. That in cases of profound coma from opium poisoning, with perfect insensibility, firmly contracted pupils, and stertorous breathing, atropine should be exhibited at once, and the patient carefully supported afterwards by the administration of coffee, ammonia, and stimulants.

5th. That, when the system is fairly under the influence of atropine, with respiration tranquil, however slow it may be, it is undesirable to interfere by artificial respiration, as it only embarrasses the breathing and interferes with the tranquil sleep which usually follows the exhibition of atropine.

ART. 98.—*On the Value of Microscopic Extravasation of Blood in the Mark formed by the Cord in Individuals who have been hanged or Strangled.*

By Dr. BREMME.

(*Vierteljahrschrift für Gerichtliche und Öffentliche Medicin*, Bd. ii. Heft 13.)

1. If death has been instantaneous, and the cord removed immediately after death, no extravasations will be found in the subcutaneous connective tissue at the mark formed by the pressure of the cord in individuals killed by hanging or strangulation.

2. When the cord is allowed to remain for some time after instantaneous death, extravasations may be found.

3. If death has not been instantaneous, extravasations will be produced, whatever may have been the period of the application of the cord.

4. It is impossible to distinguish the extravasations produced during life from those formed after death.

5. For these reasons, microscopic extravasations have no diagnostic value in the determination whether the cord has been applied during life or after death.

ART. 99.—*On Examination of the Cervical Mark formed by the Cord in Hanging and Strangulation.*

By Dr. NEYDING, of Moscow.

(*Vierteljahrschrift für Gerichtliche u. Öffentliche Medicin*, Bd. xii. Heft 2 ; *Annales d'Hygiène Publique*, No. 80, 1873.)

To determine whether the cord has been applied before or after death is difficult, and often impossible. Ecchymoses, which alone give a real diagnostic character in this question, are rare, and all the other lesions may be met with in both cases. M. Neyding has submitted the furrow to microscopical examination and has thus discovered a lesion which can be produced only during life—viz., capillary injection and microscopical ecchymoses.

The author takes the skin from the anterior part of the neck, where the mark is usually less deep, and the cadaveric hypostasis and imbibitions take place later. The skin, together with the subjacent cellular tissue, is macerated in alcohol, and is then examined under weak powers. In about twenty-five out of thirty instances both longitudinal and transverse sections show hyperæmic vessels and small extravasations of blood in the skin and cellular tissue. These latter may be perceived even by the naked eye in the forms of black and yellowish spots and of small striæ; they do not exist in all parts, but are found in patches, sometimes in the middle, sometimes at the margins, of the groove. Their diameter varies from $\frac{1}{2}$ to $\frac{2}{3}$ of a millimetre, and in form are rounded or oval. Usually by the side of a larger extravasation several smaller deposits are to be found. A dilated vessel may sometimes be discovered terminating at a point of extravasation. The part at which these lesions are the most marked is the junction of the skin with the subcutaneous cellular tissue. The hair bulbs and surrounding parts are also the seats of extravasations, which, however, are much smaller. In parts where the skin is denser, as in the neck, one finds, instead of microscopic ecchymoses, transudations of blood into the fatty cellular tissue.

In what way are these small hemorrhages produced? The cord is not generally smooth, its surface being irregular, so that the pressure upon the skin is not the same at all points; the projections compress the parts more than the intervening hollows, and the blood of the more forcibly compressed portions is driven violently into the other portions of the skin; but as these latter, corresponding to the folds of the cord, are limited by portions subjected to a former pressure, the blood cannot escape from them and spread out in the

neighboring parts, and rupture of the capillaries with ecchymosis is thus readily produced; when the circulation has been arrested, and death has taken place, the cutaneous vessels about the mark in the neck remain in the condition in which they existed at the time of death; because, the anastomotic vessels being compressed, the contents of these vessels cannot escape at any point. At a later period, and when desiccation has taken place, their permeability becomes still less.

If the conditions permitting the production of the preceding lesions be thus considered, it would be more than probable that they are absent in cases where the cord has been applied to a cadaver. M. Neyding has demonstrated this by experiment. In more than ten instances he applied cords of all kinds to the necks of cadavers two or three hours after death, and allowed them to remain for twenty or thirty hours. In no instance was he able to discover these congestions and capillary extravasations of blood; all that he observed was a few isolated, slightly dilated vessels. In one case where the cord had been applied about an hour after death and forcibly tightened, he found in the furrow a circumscribed patch of fatty cellular tissue, slightly imbued with bloody serum and pigment, and presenting a diffuse reddish-yellow coloration, but having nothing in common with a circumscribed extravasation. In six of the experiments the cord was applied with a double turn, but in none of these was the skin compressed between the turns found to be red; it always remained pale.

The author has not suspended a cadaver, but he is convinced that suspension would not modify the condition of the vessels and of the blood. He has bound cords around limbs immediately after amputation, but never found either hyperæmia or ecchymoses. On one occasion he strangled a foot a few minutes before amputation of the leg, and afterwards found in the subcutaneous cellular tissue much dilated vessels and even small extravasations.

One might further inquire whether a cord, when applied after the occurrence of cadaveric hypostasis, would not produce minute hemorrhages in the parts of the skin which are the seats of the saggulations? M. Neyding has not made any experiments on this part of the subject, and cannot give any categorical reply. He does not regard the question as a practical one, as the murderer who wishes to conceal his crime by suspending the cadaver does not wait for several hours before executing his project.

ART. 100.—*A New Test to prove the Presence of Actual Death.*

By HUGO MAGNUS, M.D.

Canada Medical and Surgical Journal, November, 1872.

In a recent number of Virchow's Archives, Dr. Hugo Magnus, of Breslau, contributes a paper in which he proposes a new sign of the presence of actual death which is of interest to students of medico-legal science. It is claimed to be a positive and unerring sign of death, and at the same time requires no medical or surgical lore in its application. It is based on the presence or absence of the circulation of the blood. Various methods have from time to time been employed, such as opening a vein or artery, or Brachet's method of puncturing some of the capillaries; these, however, have never been regarded with favor, and consequently have fallen into disuse.

Dr. Magnus's test is as follows:—

"If a limb of the body—a finger is best for the purpose—be constricted by a strong ligature, quite tightly, there will, if the subject be yet alive, be seen a reddening of the constricted member. First the part in question becomes red, and then the red color becomes darker and darker and deeper in hue, till it is finally converted into a bluish-red, the whole limb being, from its tip to the ligature which encircles it, of a uniform color, except that at the region immediately round the ligature itself there is to be seen a narrow ring which is not bluish-red but white."

ART. 101.—*On the Action of Phosphorus on the Organism.*

By Dr. G. WEGNER.

(Virchow's Archiv., Band xlv. Heft 1, 2, 1872; Gazette Hebdomadaire, No. 45, 1872.)

Whilst the study of the toxicological effects of phosphorus has been established on very numerous researches, we know but very little of the action of this substance employed in medicinal doses. The attempts of Gubler, Moutard-Martin, and others have not proved to us that the effects of phosphorus as a medical agent can, in the actual state of science, be regarded as made clear. Dr. Wegner's observations, based on experimental researches, ought to attract the attention of therapeutists to results which will, without doubt, be the object of verifications.

The starting-point of the author's researches was a peculiar clinical fact observed by him in a patient, a workman in a match manufactory, whose leg was amputated on account of compound fracture. Dr. Wegner was struck during the operation, on the one hand, by thickening and adhesion of the periosteum, and on the other hand, by the rapid occurrence after the operation of necrosis and osteo-myelitis. He thought that chronic phosphorus poisoning might be the cause of important changes in the whole osseous system, and he was thus led to seek for similar phenomena in animals in a state of chronic poisoning by phosphorus. He administered phosphorus in the form of pills to dogs, cats, and rabbits, and also made these animals inspire the vapor. He then studied the effects produced on the stomach, and liver, and the osseous system.

Phosphorus in the form of pill produces no gastric disturbances when given in small doses. In larger doses, or after a long-continued administration, phosphorus produces very important phenomena; the mucous membrane becomes hyperæmic and the seat of infarctions, hemorrhages take place, and afterwards ulcerations. When small doses have been continued for a long time, the gastric mucous membrane becomes smaller, its thickness is much increased, it is hardened and presents a brownish color. The microscope presents deposits of pigimentary material in the membranes and glands.

At the same time morbid changes are developed in the liver. In chronic poisoning the morbid changes affect not only the cells, but also the cellular tissue. Hence there results, after the phosphorus has been administered for several months, a veritable cirrhosis of the liver, with atrophy of the glandular elements and induration of the interstitial tissue.

The action of phosphorus on the osseous system was studied in two different ways. In one Dr. Wegner caused the vapors of phosphorus to act directly on the periosteum; in the other he administered phosphorus in small quantities.

Periostitis and necrosis of the jaws were produced in rabbits by shutting up these creatures in an atmosphere containing the vapor of phosphorus. Periostitis at the surface of the tibia was also produced after wounding the tibial region. It seems, therefore, to be demonstrated that the vapors of phosphorus act locally on the bones, and also necrosis may, independently of any local irritation, be the result of general poisoning.

The action of phosphorus on the osseous system may be excited by small doses in the form of pill. Doses too small to affect the stomach may yet produce lesions in the nutrition of the bones. Those lesions are characterized by exaggerated production of osseous tissue at the level of the epiphysial cartilages, by diminution of the medullary spaces; in short, by a superabundant production of compact tissue, especially evident in the epiphyses, but demonstrated by the microscope on the periosteal surface. It is a remarkable fact that the relation of the organic and inorganic substances of the bone is not modified.

Dr. Wegner, after having discussed at length the various explanations which may be given of these phenomena, concludes that phosphorus administered in

small doses produces a chronic poisoning characterized by a morbid change of the blood, resulting from the presence of phosphorus in this fluid. The osteogenetic tissues are acted upon in a special manner, and there is an exaggerated formation of compact tissue at the points where this tissue is normally formed.

The doses with which the author succeeded in bringing about a modification in the development of the osseous tissue were very small. In the rabbit he used daily one milligramme and a half, in the dog two milligrammes.

ART. 102.—*On the Causes of Death after Extensive Burns of the Skin.*

By DR. MENDEL.

(*Vierteljahrsschrift für Gerichtliche u. Öffentliche Medicin*, Bd. 1, Heft 13 ;
Annales d'Hygiène Publique, No. 79, 1873.)

The cause of death does not exist in the suppression of the cutaneous secretions, nor can it be the elevation of the temperature of the body in consequence of a diminution of the loss of caloric by the skin; on the contrary, a general reduction of temperature is observed. The quantity of fluid secreted by the burnt skin is rapidly compensated by augmentation of the renal functions and of pulmonary transpiration. Besides, a dry condition of the organs and a thickening of the blood has been recognized, rather than a dilution and internal aqueous imbibition. The excretion of carbonic acid by the skin and the absorption of oxygen are not sufficient to have much influence. The retention in the blood of other substances in the perspiration might be regarded as taking some small part, either through the direct action of these substances, or through the changes which they may undergo.

It is well known that even a superficial burn will, when it extends over more than half the body, certainly be fatal, and that death will result in a great number of the cases where not more than a third of the body has been thus injured. Death occurs at one of these stages: at the period of irritation, at that of inflammation, and at that of suppuration and exhaustion; the mechanism being different at each.

1. *Causes of Death at the Period of Irritation.*

a. Paralysis of the Central Nervous System.—In the actual condition of our knowledge this can be explained only by hypothesis; it is the consequence of an over-excitement of short duration, and which often escapes notice. It comes on shortly after the accident, and has not a long existence. The autopsy is negative.

b. Congestions of Internal Organs.—Here there is more or less violent reaction accompanied by congestions of the encephalon and its membranes, the lungs and pleuræ, the alimentary tube and the peritoneum, often with exudations of blood, particularly in the form of petechial suffusions, on the surfaces of the lungs and heart. These congestions cannot be easily accounted for; they do not proceed from a mechanical repulse of the blood from the skin through the internal parts, for they are as frequently observed after superficial burns which produce a simple erythema with afflux of blood towards the skin. Another explanation involves the suppression of the cutaneous functions, death being attributed to asphyxia or acute morbid changes in the blood. The results of autopsies and the seats and forms of the internal congestions are in favor of asphyxia; but the exhalation of carbonic acid and the absorption of oxygen by the skin are of too little consideration for their arrest failing to be readily compensated by the lungs. The suppositions as to the formation of an hitherto unknown substance producing asphyxia, probably after the manner of oxide of carbon, and as to a purely nervous influence, are too hypothetical to possess much value. In most cases there is positively death by asphyxia, but the mechanism of this has not yet been explained.

The theory of M. Baraduc, based on the loss of serum and the thickening of the blood, possibly merits more consideration than has hitherto been accorded to it.

II. *Causes of Death at the Period of Inflammation.*

There are internal inflammations consecutive to cutaneous inflammation, the former being generally seated in the nearest organ to the burnt part. Encephalitis and meningitis are relatively rare; pneumonia, both lobar and lobular, is much more frequent; at times one meets with pleurisy and pericarditis; gastro-intestinal inflammation very frequently occurs, and the duodenum is the part most constantly involved; of this no cause has yet been discovered. A rarer lesion, and one almost exclusively met with in the duodenum, is an ulceration, analogous to the round ulcer of the stomach, and capable of causing peritonitis by perforation, and death by hemorrhage in consequence of erosion of a vessel. To what is due the localization of this burn? One cannot invoke the specialty, either of Brunner's glands, or of hemorrhagic infarctions, such as form the starting-points of ulcer of the stomach. It is probably due to some inorbid change in the cell.

III. *Causes of Death in the Period of Suppuration and of Exhaustion.*

These are prostration, pyæmia, and septicæmia; renal disorganization with dropsy; internal hemorrhage.

Cases have been observed in which death occurred more or less suddenly after complete cicatrization of the wound in the absence of any determining affection. Post-mortem examinations, however, have not been sufficiently complete to permit one to take those cases into consideration.

SECT. IV.—THERAPEUTICS.

ART. 103 — *On Ether and Chloroform as Anæsthetics.*

By CHARLES KIDD, M.D., M.R.C.S. (Eng.).

Dr. Charles Kidd, who has given very minute attention to the relative safety and value of ether as compared to chloroform as an anæsthetic, comes to the conclusion that all the recent controversy on these points is vitiated by insufficient knowledge or suppression of certain facts; notably and chiefly that while undue prominence has been given to all the deaths from chloroform, by the advocates of ether and advocates of nitrous oxide respectively (he himself being in reality in favor of both in certain cases), while undue popular clamor also increases against chloroform, all the deaths from ether are suppressed. Of these Dr. Kidd refers to forty-one alleged deaths from ether collected by the Boston committee, nineteen mentioned by Trousseau, thirty-six given by Sabarth; and at Lyons, where it was inferred or mentioned, in the *Medical Record*, there had been no accident at all, Dr. Kidd refers to seven deaths as quickly following a panic about chloroform in France, not unlike that recently prevalent but now extinct, as just mentioned, in London. Dr. Kidd, in a debate at the Harveian Society, and in various recent continuous papers, has balanced the contending claims of the rival anæsthetics.

Of ether, Dr. Kidd says, "As one of the 'substitutes' for chloroform we have always inculcated the view that ether is safer, the death is at worst but a kind of profound intoxication, and no death perhaps ought to occur accidentally. An interval of fifteen years' observation and careful study, however, does not encourage one to recommend ether very strongly, especially when the deaths from chloroform are exaggerated and possibly an equal proportional number of deaths from ether suppressed. The ether controversies or single cases, can only mislead the profession by immature or hasty induction from narrow premises or collections of facts.

"The practical advantages of ether are about balanced by its disadvantages, and we are not far wrong in still adhering to the estimate formed fifteen years since, after carefully collating all the facts then available, published with accuracy in France (*avec soin*), that chloroform is probably about one-third more dangerous than ether, or so far chargeable with accidents: there were then nineteen, now there are over fifty alleged deaths from ether.

"The beautiful discovery of anæsthetics, that we owe to Morton, coming in, as Lord Bacon says, *aura leni* with its 'still small voice,' is ill adapted to all the contentions, *exparte* advocacy, and twenty years' continuous doubt which have beset it; *scribendi recte*, etc., clearness, good sense, and practical experience, the first principles of authorship, too often lost in hasty generalization. Nitrous oxide, violently condemned as most deadly by sensation writers, who would give only one side of the seldom fallible advantages of ether as used in American ways and apparatus.

"At the London Hospital I have known ether to entirely fail; and again, in an old patient it was followed by fatal coma, so that it is very uncertain. Ether has advantages that it would be unwise to omit, first and chiefly its alleged greater safety: some of this no doubt is owing to our greater familiarity with ether and its harmlessness as a common everyday drug; the patient is not so alarmed at taking it as some unknown and often denounced agent, like amylene, methylene, or chloroform.

"The advantages seem to be, that under ether the accident is not so sudden, and, as in part owing to hemorrhage which the comatose ether condition induces, may by due precautions be met and obviated. No doubt any surgeon who has ever had the misfortune of one death from chloroform in his practice, with its sudden struggle, would be only too eager for any agent where the accident is not so quick, relentless, unexpected, and sudden. But neither in America, nor at Lyons, where there were seven deaths, does ether gain in favor.

"All the recent experiments with ether, it is well to remember, have been under the very best washed ether, perfectly anhydrous; this colorless, transparent, and very mobile liquid, neutral to vegetable colors; which refracts light strongly; sp. gravity 0.723, boiling point 96° F.; vapor inflammable, and mixed with air detonates, the decanting of which ether, especially near candles, is a very dangerous process, as the whole room may be enveloped in flames. I have known ether to fail over and over again even at the chief hospital, but the ether was bad and altered.

"Indeed Mr. South in Chelius, as the result at St. Thomas's Hospital, came to the conclusion that ether acts as an anæsthetic on special patients, and on others it does not act; and, ergo, was not an anæsthetic at all. Then it was said to be particularly fit for old people; then, that it was free from the stage of excitement; then, the Medico-Chirurgical Society, from purely physiological, not practical, ideas, recommended 'mixtures' of ether already condemned in Vienna. Ether in fact is only about one-fourth as active an anæsthetic as chloroform, but almost useless if the ether is not anhydrous and first-rate in quality.

"It requires in fact a twenty-five years' watching of ether to say what is its present value or importance as an anæsthetic.

"The disadvantages are not a few; one feels no gratification in dwelling on them, only that they are forgotten. The difficulty, first, of always procuring in town and country anhydrous ether, as the very best ether soon spoils and becomes miscible with water in ordinary bottles, when it is nearly useless and disappoints the surgeon. Then, the difficulty of carrying quarts of ether where three or four ounces of chloroform would answer the same purpose; the liability also of ether to take fire; the danger of the deep coma also in operations on throat, face, and tonsils. The objections to ether must be met with a discerning, accurate, unbiased calmness if the profession is to be placed not behind the general public; statistics as to equals compared to unequals have an evil tendency to mislead. Ether is a dangerous anæsthetic to rely on in cases where the galvanic or ordinary cautery may be necessary, or lighted candles flickering about a surgical patient's bed, as he may be enveloped in flames from the

ether catching fire. Ether is inadmissible in all old people; and, as a rule, where severe bleeding is to be apprehended, in uterine hemorrhage especially; indeed, in all midwifery practice, if we want to save the infant. Notably in midwifery practice where there may be hemorrhage, or instrumental trouble or delay, or ergot be necessary; and the ether will be found to have thoroughly saturated the system of the infant as well as the mother. Then ether vaporizes so quickly it is not desirable in hot summer weather or a very warm hospital ward, while in India or the tropics it disappears altogether; its disadvantages, indeed, in such operations as ovariectomy are very great, so that of late an eminent American has used the nitrous oxide to avoid the vomiting and subsequent sickness and collapse after ether. It is the result of steady observation in large hospitals like Guy's, as mentioned by Mr. Bryant, that in many forms of collapse, sickness, 'shock,' chloroform acts as a stimulus. This was the general impression, too, in the surgery of terrible gunshot wounds in the Crimea; ether is only of use in a separate inhaler, not mixed where patients preferred it; but very unsafe where there is shock, especially shock from hemorrhage. No doubt, by avoiding hemorrhage cases, or those about the throat or face, and using perfectly pure washed ether, we may succeed with it. Marked fatal cases from ether are cited by Velpeau during the removal of tonsils; other cases of a like kind by Barrier, of Lyons, M. Legouest, Dr. Alonzo Clarke, Bellevue Hospital, so that we cannot always rely upon its absolute safety. Authentic deaths from ether in England were published so early as 1847 by Snow, and Sabarth in his work refers to thirty-six accidents of this kind; the danger seems in the epileptoid stage, but the death is slower, like coma or deep intoxication. In the subsequent saturation of the system by the ether it attacks the fatty tissues, judging by experiments on animals.

"In fine, as to operations on tonsils, in midwifery, in 'shock,' in cases of hemorrhage, in eye cases, where I had the best opinions at the Ophthalmological Congress, quite in opposition to Dr. Joy Jefferies, in old people, in children, ether is of very dubious importance. Then the difficulty of procuring in country villages perfectly anhydrous ether, its cumbrousness, the danger of decanting it in close surgeries at night, its unsatisfactoriness in 'mixtures,' are all deserving of consideration, or being placed in contrast with its undoubted advantage of less sudden accidents, though these have been suppressed."

Of other anesthetics the experience of Dr. Kidd is varied; thus he says in the *Student's Journal and Hospital Gazette*, April 26th:—

"The bichloride of methylene has been tried extensively in short operations like the nitrous oxide. Syncope, with paleness of face (not lividness) is most to be feared in the administration. A trial has been made at Padua. Frightened at the English reports of death by chloroform, Rossi, chief surgeon of that city, had the former specially prepared, and tried it in 108 operations. Eighty-four presented nothing more than if under chloroform; thirty-two were excited, four violently so; twenty minutes required for the inhalation; twenty resisted it (absolument refractaires après quarante minutes); eight had severe vomiting. It produces tears in the glands of the eyes, but not cough. The patient remains comatose or asleep half an hour after the operation. Its greater safety, especially in these cases, recommends it in Italy, but several deaths from it have occurred in England.

"I have described its superiority to the gas in cataract operations, especially so in glaucoma. It is scarcely accurate to compare it with chloroform, as it is given nearly pure for short operations like eye cases in a different manner from chloroform. The leading eye surgeons object to the lividness and 'strangulation.' The nitrous oxide has proved safer in dentistry practice than chloroform, though inadmissible in eye surgery from the violent action of the face and its muscles. Here the methylene (applied differently from chloroform), especially in glaucoma, is found serviceable. The various chlorodynes, or, as we would term them from the Greek adverb (choris, without), choridynes, absence of pain, with the chloral syrup, will also supersede chloroform in delirium tremens, mania, convulsions, spasmodic pain, etc."

As to the effect of sensational alarm, nature of operation, age, sex, etc., Dr.

Kidd makes the following suggestive remarks : "The literature of anæsthetics at present is about as blank and disorderly as the literary decisions of the Educational Council. Present conjoint effort has been to prevent irrational outcry against chloroform till men come to understand it better. A surgeon in China was put in prison last year as a death from chloroform had happened to him in an operation! There, in prison, for what I know to the contrary, he remains still! The same sad verdict of malpraxis was proposed in Ireland this year in a like case by 'crown's quest law,' but a friend having sent us the newspaper report, by dint of ridicule it was laughed down. Fruits of the literary forcing-house, so fair outwardly, but so flavorless; the big mushroom idea of the fatty heart in forty-five of fifty of Snow's cases; the serious necessity of a formal heart examination; had all been brought before the police in alarming depositions and interrogations. But the danger, as already hinted, is rather in this frightening of patients; the heart is not such a perfect guide as formerly believed; our effort rather to realize the exact bearing of emotion, shock, nervous temperament, in such cases.

"Snow, too, has made a remark exactly the reverse of this, as to fatty heart. This imprisoned surgeon, and trial lately in the Channel Islands, and one not long ago at the Old Bailey, with about a dozen others in America, are the standing shame of our medical publishers; nor do we improve, we rather go back.

"We dwell with no pleasure on these popular misgivings; false impressions as to Snow's statistics; advertising dentists' harsh and continuous condemnation of chloroform; trade notions from America as to not one single death from ether; all things against which the student must be on his guard.

"We would direct attention to the following new facts as bearing on these 'stages,' and the character of the operation most dangerous. Of 259 deaths, tabulated by Snow and others, more than 80 per cent. were what one would call trivial small operations, on fingers, toes, eye cases, dentistry, etc., where patients are imperfectly anæsthetic. There have been no deaths in ovariectomy, midwifery, large capital operations, and the like.

"As an approximate idea of the stages in which death is most frequent, we find in 116 accidents 88 before operation at all, in the second stage, or, in the panic, halfway through an operation, and only 28 after operation: and, as to sex, of 70, in a return by Registrar-General, the males were 55, the females 15; the fatal age 30. And yet some say age, sex, nature of operation, 'stages,' etc., are nothing."

ART. 104.—*On Cod-Liver Oil.*¹

By M. DECAISNE.

(*Archives Générales de Médecine*, Février, 1873.)

M. Decaisne gives the result of his observations on the action of cod-liver oil in twelve cases of rickets, thirty-nine cases of scrofula, and fifty-two cases of phthisis:—

The oil acts, according to the author, as an antiseptic and reconstituent; it has curative properties in rickets, but does not produce a cure either in scrofula or phthisis. When given within a certain limit it increases the weight of the body, and may carry it even beyond the normal degree. By increasing the dose, however, the weight of the body may be diminished, in consequence of digestive disturbance.

Cod-liver oil should not be administered when there is any fever. The most opportune time for its administration is during a meal, so that it may be acted upon by the gastric and pancreatic juices.

¹ Communicated to the Académie des Sciences, Paris.

ART. 105.—On the Use of Hemlock, in Relation with the Scepticism which now prevails on the Value of Drugs.¹

By HENRY KENNEDY, M.B., F.K.Q.C.P., Physician to Sir Patrick Dun's Hospital, and late Physician to Cork Street Fever Hospital.

(*Medical Press and Circular*, February 5, 1873.)

That hemlock is a drug possessed of great powers the author cannot doubt. It seems to act as a general restorative, and when the proper dose is reached the patient begins at once to improve. They gain flesh and even color, and so the disease is cured. If, however, we wish to get its full effects, Dr. Kennedy agrees with Harley that it must be given in what he calls the physiological dose. Dr. Harley seems chiefly to have used the succus conii of the British Pharmacopœia, and a very elegant preparation it is; but it has this objection, and more particularly with children, that one-third part of it is spirit. To avoid this the author has latterly been in the habit of directing the extract made into a mixture, and by a very little management a very palatable mixture can be made, to which children will rarely object. The flavor of the hemlock itself is not, however, by any means unpleasant, being very like indeed to that of liquorice ball. With some few individuals, but they are very exceptional, the hemlock does not agree; it makes them sick. Details of two or three cases are given to show the effects of this medicine.

Dr. Kennedy has given it in a number of cases of chronic disease of the lungs, such as phthisis and asthma, with chronic bronchitis, and though nothing of a cure was to be expected in such cases, yet it was remarkable, he says, how much the greater number were benefited; indeed, so much as to be able to leave the hospital in a very short time. In many cases of neuralgia the hemlock will cure the disease, but not in all.

ART. 106.—On Hyoscyamine.*

By Dr. OULMONT.

(*Archives Générales de Médecine*, Décembre, 1872.)

The author of this contribution has arrived at the following conclusions:—

1. Hyoscyamine represents all the active principles of henbane. The fixity of its composition gives to its employment a precision which does not attend henbane in substance.

2. Hyoscyamine ought to be administered at first in small doses (2 milligrammes daily), either in pills or by hypodermic injection. The daily dose may be gradually increased to ten and even twelve milligrammes.

3. This medicinal agent should be continued even if it give rise to slight symptoms of poisoning, as dryness of the throat and dilatation of the pupils. But if the symptoms should become serious and cerebral affections be produced, it would be necessary to suspend it. These symptoms, however, are temporary, and rapidly disappear.

4. On man hyoscyamine exercises a narcotic action. It is efficacious against pain, especially when of a neuralgic character, but its efficacy is less than that of opium and belladonna.

5. Hyoscyamine acts favorably against spasmodic and convulsive neuroses. It will often cure mercurial trembling after every other treatment has failed. In senile trembling also, and in paralysis agitans, hyoscyamine has produced more amelioration than other medicinal agents.

6. Its action in cases of locomotor ataxy is negative. In one case of traumatic tetanus, which, however, was fatal, it determined a marked remission of the symptoms.

¹ Read before the Surgical Society of Ireland.

^{*} Communicated to the Académie de Médecine.

ART. 107.—*Effect of Stimuli on the Secretion of the Parotid Gland.*

By P. D. STONEY, M.D.

(Journ. Anat. and Phys., November, 1872.)

Dr. Stoney took advantage of the opportunity afforded by a patient who was admitted into St. Bartholomew's Hospital with a parotid fistula of long standing, to make some experiments on this subject:—

"These experiments show (1) that mastication alone stimulates the flow of saliva from the parotid to a considerable extent. (2) That the effects of taste vary with the sapid substance, sugar having no effect, while tartaric acid acts most powerfully. (3) That sapid substances act equally when applied to the tip and base of the tongue. (4) That the effect of mastication and taste together is much greater than that of mastication alone. (5) That mental stimuli had a considerable effect in one experiment, but in others none at all. These results accord in some respects with those obtained by Schiff in his experiments on dogs, though differing from them in others. This physiologist observed that mastication alone had little or no stimulating action on the parotid secretion in dogs, and Dr. Brunton informs me that he has found this to be the case also in rabbits, while in the experiments above described the action was very distinct. The effect of the application of sugar and tartaric acid to the tongue of dogs was the same as that observed by me. The slight effect of purely mental stimuli in this case is remarkable, as the parotid is stated by Kühne to be readily affected by them, but this may have been due in great measure to the character of the patient, who seemed to be dull and unimaginative. An experiment was also made for the purpose of determining the time required for the absorption of drugs and their excretion by the saliva. For this purpose iodide of potassium was administered, and the saliva constantly tested till it appeared. The time which elapsed between its administration by the mouth and its appearance in the saliva from the parotid duct was found in one experiment to be 29 minutes 30 seconds.

ART. 108.—*On the Therapeutical Action of Bromide of Potassium.*

By Dr. AUGUSTE VOISIN.

(Archives Générales de Médecine, Février, 1873.)

Bromide of potassium acts in two different ways, and the physician, if he wishes to succeed with this medicinal agent, ought to conform to this double physiological datum.

It has a sedative action on the spinal cord and on the medulla oblongata, and a constrictive action on the muscular fibres of the capillaries so as to produce anæmia of organs and tissues.

By the former action is explained the efficacy of bromide of potassium in all morbid conditions in which the cord and the medulla oblongata are more or less excited—that is to say, to mention only the principal affections, in cases of epilepsy, chorea, tetanus, simple and traumatic, in spinal irritability of hysterical and anæmic patients, in painful paraplegia of nervous females, in pains and cramps of spinal origin.

On the other hand, it is useless in pains of peripheral origin, in gastralgia, and generally in all painful affections which have not a spinal origin.

By its constrictive action on muscular fibres of the capillary vessels it causes anæmia of tissues, and so may be employed with advantage in simple visceral congestive affections unassociated with neoplasia.

Neither this agent nor the bromide of ammonium causes any arrest of the morbid changes and symptoms in chronic diffuse meningo-encephalitis or in other inflammatory hyperæmia accompanied by inflammatory exudation, proliferation of connective tissue, and organization of new tissue.

It is to the constrictive action of the bromide of potassium on the vessels that is due the favorable results of this agent in cases of spermatorrhœa.

In consequence of this action bromide of potassium diminishes most of the secretions, especially the buccal and pharyngeal, and probably the gastric secretions. Its action on vaginal secretions is also very rapid. Two or three doses each of one gramme will remove a simple leucorrhœa.

ART. 109.—*Clinical Remarks on the Resina Copaibæ as a Diuretic.*

By SAMUEL WILKS, M.D., F.R.S., Physician to Guy's Hospital.

(*The Lancet*, March 22.)

Dr. Wilks speaks with the greatest confidence of the value of the resin of copaiba as a diuretic. The ordinary copaiba has long been known for its action on the kidney, and is occasionally used in dropsy, but the nauseous taste of the oleo-resin has almost forbidden its employment. The oil separated from the resin is officinal, and is often prescribed in gonorrhœa instead of the compound substance. It is thought that the oil acts more especially on the mucous membranes, and is therefore useful in affections of the bronchial, vesical, and urethral surfaces. If this be so it is equally certain that the diuretic properties reside in the resin. Dr. Wilks has found it very difficult for patients to take the ordinary pharmacopœial drug, and almost impossible to get general practitioners to sanction its administration in private practice; he therefore has substituted for it the simple resin, and finds it equally or more efficacious. He gives fifteen or twenty grains in mucilage and flavored water three or four times a day, and has had numerous cases showing its marked diuretic properties. There is now in Guy's Hospital a man who came in with ascites, and who, after taking numerous other remedies, was ordered the resin. The amount of urine was at once doubled in quantity, and now, after a few days, the fluid has almost disappeared. Dr. Wilks says he has lately had as a private patient a "drunkard builder," with cirrhosis of liver and enormous ascites, for whom he likewise prescribed the resin; a diuretic action was at once effected, and the dropsy quickly disappeared. In heart cases also he has given it with great success. Lately there was in the hospital a girl with mitral disease and considerable dropsy, who took the usual medicines without effect, and was then ordered the copaiba. It at once produced the desired result, and the fluid was dispersed. Dr. Wilks states that he has often given the remedy and failed; but, on the other hand, when it has succeeded the result has been more striking than that arising from any other diuretic he has seen. He would wish it were placed in the Pharmacopœia, as it is not kept by chemists, although he is informed that it is used largely by perfumers, and the resin thrown away in large quantities as a waste material.

ART. 110.—*New Mode of Treatment of Functional Dyspepsia, Anæmia, and Chlorosis.*

By E. BROWN-SÉQUARD, M.D.

(*Archives of Scientific and Practical Medicine*, Jan. 1863.)

The following mode of treatment, proposed by Dr. Brown-Séquard, for some cases of dyspepsia, chlorosis, anæmia, and nervous affections caused by gastric disturbances or poverty of blood, has the merit of novelty. It "consists in giving but very little of solid or fluid food or any kind of drink at a time, and to give these things at regular intervals of from ten to twenty or thirty minutes. All sorts of food may be taken in that way, but during the short period when such a trial is made, it is obvious that the fancies of patients are to be laid aside, and that nourishing food, such as roasted or broiled meat, and especially beef and mutton, eggs, well-baked bread, and milk, with butter and cheese, and a very moderate quantity of vegetables and fruit, ought to constitute the dietary of the patients we try to relieve. This plan should be pursued two or three

weeks, after which the patient should gradually return to the ordinary system of eating three times a day.

"It is hardly possible to give more detailed rules as regards this hygienic mode of treatment. On the one hand I have found few persons willing or able to follow it fully. On the other hand, many patients, especially those who have no dyspepsia, do not need to take so minute an amount of food at a time. Besides, it is certain that the quantity of food required varies notably in different persons. Prof. John C. Dalton states that the entire amount of food per day needed by a man in full health and taking free exercise is: of meat, 16 oz. av.; bread, 19 oz.; fat, $3\frac{1}{2}$ oz.; and of water, 52 fl. oz.—i.e., about $2\frac{1}{2}$ lbs. of solid food, and rather more than 3 pints of fluid. According to Dr. Edward Smith and other European hygienists, the amount of solid food and of water required each day is notably larger than that marked out by the able American physiologist I have named. My experience with the patients on whom I have tried the plan of feeding above mentioned, shows that the amount of solid food required by an adult is nearly always as follows: from 12 to 18 oz. of cooked meat, and from 18 to 24 oz. of bread. As regards the quantity of fluids I have allowed, it has always been notably less than the amount indicated by Dr. Dalton (3 pints), and by Dr. E. Smith ($4\frac{1}{2}$ to 5 pints).

"I hardly need say that in carrying out the plan I propose attention must be paid to three points: 1st, The liking and disliking of certain things by the patient. 2d, The importance of variety in food. 3d, The digestibility of certain things compared with others—digestibility which varies immensely in different patients. When I found that there was no disgust for a meat and bread diet, I ordered that roasted beef or mutton, with bread, be almost the only kinds of solid food taken. But most patients were either soon disgusted with this diet or refused even to try it. Having ascertained this I allowed the selection by each patient of his own dietary, insisting, however, that the quantity of cooked meat should be at least 12 oz. a day. The most varied diet, as regards the kinds of food, can be followed, however, under this plan as well as when one has only two or three meals a day. The only absolutely essential points are that the amount of food taken every 10, 15, 20, or 30 minutes be very small (from two to four mouthfuls), and that the quantity of solid food in a day be from 32 to 40 oz., or a little less when, instead of water, the patient drinks beef-tea or milk."

ART. 111.—*On the Action of Rhus Venenata and Rhus Toxicodendron upon the Human Skin.*

By JAMES C. WHITE, M.D., Professor of Dermatology in Harvard University.

(*New York Medical Journal*, March, 1873.)

The author contributes a very interesting paper on the so-called poisonous action produced upon the skin of persons touching or approaching either the *R. toxicodendron* (popularly called poison-ivy, poison-vine, poison-oak), or the *R. venenata* (commonly known as poison-sumach, poison-dogwood, poison-elder, poison-ash).

Writers have generally regarded the inflammatory affection of the skin provoked by contact with plants or their emanations as of an erysipelatous nature. Dr. White combats this opinion as erroneous, and says, the "observation of a few cases, as they present themselves in the practice of every physician, will satisfactorily establish the changes in the skin to be simply of an eczematous nature, although of so severe a type, in some cases, as to produce quite as marked deformity of parts as true erysipelas." In the many cases which Dr. White has observed he has found that in all the pathological changes of the skin were identical, differing only in degree of intensity and extent of distribution.

In a mild case we find a slight erythema surrounding a papule or vesicle, with a small underlying infiltration or exudation. These are all the phenomena

observed, whether we have a single efflorescence or several individuals grouped together. Dr. White agrees with Prof. Maisch that toxicodendric is the principle to which the poison-oak owes its effects on the human system, and frames his therapeutics accordingly. "We have to deal with an acid, and the antidote of an acid is an alkali; that is, provided the salts thus formed are not equally poisonous." Whether the salts formed with toxicodendric acid by ammonia, potash, and soda are poisonous, Prof. Maisch is in doubt; but, speaking clinically, he leads us to believe they are not, for he says, that the application of solutions of ammonia seemed to be most effective in counteracting the action of the acid. This is consistent with the popular reputation of solutions of saleratus and soda as remedies, and will explain the action of the soft-soap above mentioned. These are true antidotes, but they can be of benefit only from their chemical action, and in this way. In the latter stages, or, in other words, against the subsequent eczematous changes in the cutaneous tissues, they can do no good. The action of that most popular of all remedies in this affection, the solution of sugar of lead, is a mixed one, and seems to have been happily, though unwittingly, selected as an appropriate remedy in all stages. Toxicodendric acid precipitates from it an insoluble, and therefore harmless salt, while its astringent action is well adapted, in many cases, to the relief of the inflammatory processes in the skin.

"The treatment of the later stages of rhus-poisoning, that is, of the eruption it produces, need not be especially considered, for it is mainly that of the corresponding varieties of ordinary acute eczema. It is seldom that the physician is called upon before the inflammatory process is well developed, so that there generally remains for him only the selection of the applications appropriate to a simple eczema of the same stage. In the great majority of cases I have found black-wash—calomel ʒj, lime water Oj—by far the best application to the affected parts, used as an evaporating lotion upon thin and old linen or cotton cloth, for half an hour to one hour at a time, two or three times a day. I have used in connection with it, to moist or excoriated parts, a powder of oxide of zinc ʒj, starch ʒj, or plasters of oxide of zinc or diachylon-ointment, as in the management of ordinary eczema. In the black-wash we have, possibly, three elements at work in our favor: first, the alkali as antidote, if it is of any avail at such periods; second, the action of cold from evaporation upon the local hyperamy; and, third, the astringent effect of the mercurial powder upon the diseased tissues. In all cases of poisoning I have been entirely satisfied with its effects, however extensive in distribution or advanced in development the inflammatory condition of the skin. Only upon the thickened epidermal coverings of the efflorescences in the palms does it seem ineffectual. To these tardy and well-protected manifestations I apply solutions of corrosive sublimate, from one to two grains to the ounce of water, in the same way as the black-wash is used upon the other parts. By these means the eczematous process is checked and shortened, and the subjective symptoms greatly alleviated.

"Of any internal treatment of direct bearing upon the affection, I have never seen the operation or need. A simple and restricted diet in severe cases is, of course, to be observed."

ART. 112.—*The Effects of Tension and Relaxation of Muscle upon Electro-Muscular Contractility.*¹

By WILLIAM R. FISHER, M.D.

(*New York Medical Journal*, May.)

A series of experiments which Dr. Fisher has made, upon both healthy and paralyzed muscles, have satisfied him of the truth of the following conclusions:—

1. That the relaxation of a muscle promotes its electro-muscular contractility.

¹ Read before the Electro-Therapeutical Society of New York.

2. That the stretching of a muscle diminishes its electro-muscular contractility.

The muscles of the forearm supply the most convenient and satisfactory means for demonstrating these facts. The extension and relaxation of these muscles can be regulated easily by changing the position of the hand; there is no difficulty in isolating the particular one which we may wish to subject to the electrical current, nor is there likely to be any interference with the result from the presence of an obstructing layer of fat. The biceps and triceps brachii also answer very well. Muscles having broad origins or insertions, such as the deltoid, for example, are not good subjects for experiment, because in altering the position of the limb, so as to extend or relax the muscle, the position of the electrodes is unavoidably changed, and fibres are brought under the electrical current other than those upon which the experiment was commenced, and the result is vitiated. Dr. Fisher has found also that the fleshy mass of the thigh is unsuitable, partly on account of the difficulty of isolation which has been referred to, and partly on account of the resistance offered by the adipose and fibrous tissues. In one case upon which he experimented, the results which he had expected to accomplish were directly reversed; *i. e.*, when the quadriceps extensor cruris was relaxed, the electro-muscular contractility was not so great as when the knee was bent and the leg hung pendent. This was to be attributed, it is believed, mainly to the layer of fat which lay between the electrodes and the muscle, and which offered a greater resistance to the passage of the current when the tissues of the thigh were relaxed than when they were rendered tense by extension.

In experimenting upon healthy muscle, Dr. Fisher adopted the following method of procedure: Suppose that the muscles on the dorsum of the forearm were chosen as the subjects for investigation. The hand was extended strongly so as to relax them as far as possible. One electrode was placed near the external condyle, and the other about midway down the forearm, so as to include between them a portion of some one of the muscles of the region. The current was reduced in strength until it reached the minimum point at which muscular contraction could be distinctly perceived by the finger of the observer, placed between the electrodes. Then the hand was carried by the observer from the position of extreme extension to that of extreme flexion, and in this change of posture the electro-muscular contractility was invariably found to diminish, and, if the current were not too strong, to become entirely imperceptible. This effect was reversed by restoring the hand to the position from which it started. Dr. Fisher has obtained these results in numerous instances, both with the interrupted galvanic and faradic currents, applied directly to the muscles, and also with the galvanic nerve-muscle current, interrupted; but the faradic current gives a more distinct and positive demonstration than the galvanic, by reason of the more decided muscular contractions which it produces.

The electrodes should be about an inch in diameter. If much larger, they include too great a mass of muscular fibres, and the accuracy of the observation may be interfered with. A distance of four or five inches between them should be maintained, so that the contractions may be easily made out with the finger. The strength of the current should be carefully reduced to the point which has been indicated, because, when powerful currents are used, the variation in the force of the muscular contractions, which is occasioned by the change from a state of relaxation to that of extension, and *vice versa*, is not sufficient to be appreciated by the sense of touch.

Three causes which act in modifying the normal electro-muscular contractility and sensibility have previously been established—the anatomical relation of individual muscles, the quantity and distribution of the sensitive nerves, and the thickness of the skin and adipose tissue. To these must be added the mechanical element of tension.

The experiments upon healthy muscles followed an observation which the author recently made upon a case of hemiplegic paralysis, attended with marked muscular atrophy. Dr. Fisher was trying to distinguish muscular contraction in response to a mild faradic current, which he was passing through the biceps brachii muscle, and, as he watched closely, without having perceived any signs

of it, the patient bent his elbow at a right angle, by carrying his forearm up with his unaffected hand. Immediately the biceps contracted very decidedly to the interruptions of the current. The patient was directed to let the forearm fall again, and at once the contractions ceased to be apparent. This has been repeated frequently with the same patient, and like results have been obtained in other cases of a similar nature. In two cases of lead-paralysis, the galvanic current has given analogous results in the muscles of the forearm. Dr. Fisher states that, if there be extreme atrophy in a case of palsy, the observer may not be able to distinguish by touch or sight these effects of the changes in muscular tension, by reason of the feebleness of the contractions to the electrical stimulus in the attenuated muscles.

The therapeutic indications of this method of electrization seem to Dr. Fisher to point to many forms of paralysis, and especially to those which present the changes of atrophic degeneration. In lead-paralysis, for example, where the extensor muscles are more affected than the flexors, and the electro-muscular contractility varies in each group with the amount of palsy, the nutrition and growth of the less powerful may be hastened by placing them in the position of complete relaxation during the application of the faradic or the galvanic current. And, generally, where the electro-therapeutic seeks to stimulate muscular growth, and at the same time to avoid fatigue and exhaustion in the feeble muscles which he treats, this plan, which takes advantage of position to facilitate the action of electricity, must commend itself.

ART. 113.—*Laurel Leaves as a Febrifuge.*

By M. A. DORAN.

(*Pharmaceutical Journal*, December 21, 1872.)

M. A. Doran has communicated a note to the French Academy, recording the febrifuge and antiperiodic properties of the leaves of *Laurus nobilis*. The green leaves are prepared by drying them at a gentle heat in a closed coffee-roaster, to avoid the loss of the volatile constituents, until they become brittle, but without undergoing any alteration. They are then reduced to a fine powder, of which one grain macerated in a glass of cold water for ten or twelve hours, is administered as a dose.

ART. 114.—*Phytolacca Decandra in the Treatment of Inflammation of the Mammary Glands.*

By G. W. BIGGERS, M.D., of La Grande, Oregon.

(*American Journal of the Medical Sciences*, January.)

The following cases are stated as the result of the author's experience only with the remedy in question.

CASE 1.—Mrs. H.: on third day after labor with her second child, mammae commenced swelling, from an accumulation of milk. Dr. Biggers did not see her until the symptoms were so urgent that there could be no mistake about the commencement of an abscess.

He pursued the antiphlogistic treatment, both general and local, until there was no promise of improvement; the case was in fact getting worse. He then prescribed fluid ext. *phytolacca decandra*, gtts. xx, every three hours, in water. A very marked improvement took place in twelve hours, and in thirty-six hours the patient was well. There was also a suppression of the lochia, which was also re-established.

CASE 2.—Mrs. B., whose child died a few hours after its birth, was attacked, after the secretion of milk took place, with inflammation of the mammary glands, from overdistension, and had the milk withdrawn very regularly, yet the case continued worse, threatening an abscess. The fluid ext. *phytolacca decandra*, gtts. xx, was prescribed every three hours. Marked improvement in ten hours, and a complete recovery within thirty-six hours. There was also

a suppression of lochia in this case, which was re-established with the cessation of the mammary inflammation.

CASE 3.—Mrs. G., at the fourth month of pregnancy, was attacked with inflammation of both mammae, severe pain, swelling, and very great heat, with severe rigors, amounting to a distinct chill. Dr. Biggers prescribed fluid ext. *phytolacca decandra*, gtt. xv, every three hours, in water. The symptoms all subsided, and the patient fully recovered within forty-eight hours with no other treatment.

The author has used the remedy above named in many other cases of mammary inflammation, and it has never yet failed in a single case.

The preparation used was Thayer's fluid extract. A tincture from the green root would, Dr. Biggers thinks, be more reliable.

ART. 115.—*On the Influence of Belladonna on Sweating.*

By SIDNEY RINGER, M.D., F.R.C.P.

(*The Practitioner*, August, 1872.)

Dr. Sidney Ringer communicates a short paper on the efficacy of belladonna, in ointment or liniment or hypodermically, in checking sweating, local or general. He was led to try the influence of belladonna on sweating from its remarkable action in checking the secretion of milk. He first employed it "in a case of unilateral sweating. A man, forty-five years old, had been troubled for many months with profuse sweating of the right side of the face and neck, breaking out on the slightest exertion or excitement, or when near a fire, so that the sweat ran down his face and neck in streams, soaking his collar and the band of his shirt, his face being neither red nor congested. The perspiration produced an abundant crop of miliaria vesicles, which were strictly limited to one-half of his face. The liniment of belladonna applied two or three times a day abated this copious sweating considerably, and reduced it to a little more than the natural amount, and this improvement lasted about six months after the discontinuance of the application, and then the sweating gradually returned, till it became as bad as ever.

The writer has many times checked the sweating of the head and face of young children, often so profuse as to soak their hair and the pillow on which they have been sleeping. Again, by means of the belladonna ointment or liniment rubbed in two or three times a day, he has several times checked the profuse sweating of the hands, which is sometimes so copious as to run off them in drops, and is especially noticeable at the finger-tips and thumb-balls. Sometimes the good effects are permanent, sometimes the sweating may not return for a considerable time; but occasionally, however, this treatment fails.

ART. 116.—*On the Treatment of Trembling by Arsenical Hypodermic Injections.*

By Dr. A. EULENBURG.

(*Berliner klinische Wochenschrift*, No. 46, 1872; *Gazette Hebdomadaire*, No. 49, 1873.)

The author, from a therapeutical point of view, collects in one group senile alcoholic, and mercurial trembling, also the trembling of paralysis agitans, and of the various sclerotic affections of the central nervous system; finally, cases where trembling represents the unique symptom of the hysteria agitans of Sanders. Whatever be the cause of the trembling, it may be admitted that the phenomenon in itself is in part due to an abnormal excitability of the motor nervous apparatus, in part to an abnormal excitation of this apparatus, proceeding from the periphery, from the centre, or by reflex or sensorial courses. One may, therefore, conceive of the possibility of finding a medical agent which in cases of trembling may diminish the excitability or excitation. Curare, which has already been tried, does not give good results, and bromide

of potassium does not produce sufficient effects. Arsenic is a more promising remedy.

This last agent acts upon those parts of the spinal cord which conduct the sensory impressions, and destroys their function, whilst it leaves intact the excitability of the motor nerves and of the muscles. As trembling has most frequently a spinal origin, it seemed to Dr. Eulenburg a rational proceeding to apply arsenic in the treatment of this phenomenon.

The plan of treatment adopted by the author is based on the employment of arseniate of potash or Fowler's solution injected under the skin. Dr. Eulenburg endeavored thus to avoid the irritant action of arsenic on the stomach, which action is manifested by gastralgia and loss of appetite.

Dr. Eulenburg employs for his injections a solution of one part of fluid arseniate of potash to two parts of distilled water. He injects a dose of this solution equivalent to between 14 and 20 centigrammes of fluid arseniate of potash—a very large quantity, if one compares the activity of hypodermic injections with that of doses administered by the digestive canal. Injections made in the neck or back never cause abscesses; the pain is very slight.

The cases treated by the author in this way were seven in number. In one case twenty-eight injections were practised in seventeen days; at first they produced an increase of the trembling, but the ultimate result of the treatment was most satisfactory. In another case the trembling was relieved after the fifth injection. In one of the other cases presenting a great resemblance to paralysis agitans, fifteen injections produced cessation of the trembling; in the other, four injections brought about considerable amelioration.

Dr. Eulenburg reports other cases in which this treatment was employed without producing any result. This plan of treatment, then, is still under trial; all the reports of these cases seem to prove the freedom from bad results of arsenical injections.

ART. 117.—*On the Use of the Direct and Induced Electric Currents in Medicine.*

By WALTER G. SMITH, M.D.

(*Irish Hospital Gazette*, January 1.)

At a meeting of the Medical Society of the College of Physicians, Dec. 11, 1872, Dr. Walter G. Smith read a paper on the above subject. After some introductory observations, attention was drawn to three groups of paralysis—viz., Bell's palsy, local traumatic paralysis due to pressure or other injury, and paralysis from lead.

Five cases of Bell's paralysis were related in illustration of several points in the relation of the palsied muscles to the direct and induced currents respectively, and a summary of the principal results observed was given. Two cases of traumatic paralysis, due to compression of the nerve during sleep, were quoted, both rapidly yielding to induced electricity; and two cases due to a more serious injury of the nerve—in one, by a bullet wound in the left arm; and in the other, by a fall against a stone step on the outside of the right knee. In the former case, induced electricity failed to stimulate the palsied muscles to contract; but a galvanic current, from fourteen (Leclanché) cells, caused distinct contractions, and, after a few days, nine or ten cells. In the latter case, the motility of the paralyzed muscle was quite extinguished, and excitability to either the direct or the induced current seemed at first completely lost. But by degrees the muscles began to respond to a *slowly-interrupted* galvanic current, and after perseverance for a considerable time motility was thoroughly restored, and faradic excitability had nearly returned. On the subject of lead palsy it was remarked that the gravity of the paralysis seems to bear no constant relation to the degree of muscular atrophy, and the author expressed his conviction that the statement commonly made in the text-books, that the extensors only of the wrist are engaged, and that the corresponding flexors escape entirely, requires some modification. On the contrary, it is sufficient to test the

grasping power of the hand, to feel the flabby condition of these muscles, and to observe their atrophied state and the diminution of electro-contractility which so frequently obtains, to be convinced that the dictum that the flexors escape the poison of lead is only relatively true.

ART. 118.—*On the Use of the Constant (Voltaic) Current in Pains of a Pelvic Character.*

By WILLIAM STEPHENSON, M.D.

(*Transactions of the Edinburgh Obstetrical Society.* 8vo. pp. 455. 1872.)

In this paper Dr. Stephenson observes:—

“One of the most important questions in practical medicine at present under discussion is that regarding the influence of the constant current of electricity over pain. Having used the constant current for two years in a large number of different affections, I would lay before you the result of my experience in so far as it relates to certain classes of cases which come more directly within the domain of this Society. The first class to which I would refer is the sacral and iliac pains which are met with so frequently in practice. Many of them are purely neuralgic, others muscular, while some are a combination of both forms. Their connection in a large number of cases with some abnormal condition of the pelvic organs is undoubted, but it is no less true that they often persist long after the primary local cause has disappeared.

“The difficulty which we have had hitherto to contend with is, that we did not possess the means of acting directly and locally upon the weakened state of the sacral nerves, which is the true cause of the suffering, or determining the relations between the pain and the pelvic change. Here, however, the constant current of electricity steps in. Its effect in alleviating pain affords immediate relief, and by its restorative influence gradually removes the affection, while in it also we have the means of determining how far any local mischief is acting as an exciting cause. In some cases where a cure cannot be looked for, great relief to suffering can be given more quickly and with better effect than by the use of anodynes.”

Here follow reports of eleven typical cases in proof of the effects claimed.

1. Rupture of perineum; prolapsus uteri; cervix short, with os directed forward; pain in the back and left iliac region for nearly three months, with bearing-down sensation, much increased during the last two weeks.

“A direct current from twenty-five cells was passed through the region of pain for five minutes. The pain in the side was at once relieved, and she felt only a slight uneasy feeling in the back on stooping. Next day the improvement continued, she felt no pain, but a weary feeling in the back and limbs. . . . The pains, however, returned at times, but never to such an extent as to inconvenience her.

“There are many cases of backache which have their origin in the irritation of the menstrual period, but where a proneness to fatigue in the lumbar muscles renders the affection more or less permanent. Otherwise they are unassociated with any uterine ailment. An error in diagnosis, however, may be readily made, and it is easy by a leading question to get some acknowledgment of the vague term *down-bearing*. Their real nature is muscular fatigue.”

The influence of the constant current is to restore tone to the muscles.

“To obtain these results, what is wanted is not a current of great intensity, but one with a large quantity of electricity of low tension, and twenty-five Daniels' cells are sufficient for ordinary cases. The mode of application I adopt is by two large surface sponge conductors, the one placed over the spine, and the other on the iliac regions and the inner side of the thighs. I have tried the direct applications to the uterus by a vaginal conductor, but I did not find any well-marked advantage over the external method, and it is much less agreeable to the patient. Each application should last five or ten minutes, and the direction of the current should frequently be changed during the sitting.”

ART. 119.—On the Disposition of the Poles of Continuous Currents in certain Forms of Myelitis.¹

By M. ONIMUS.

(*Gazette Hebdomadaire*, No. 5, 1873.)

It has been established by MM. Legros and Onimus, as a general rule, that descending continuous currents applied to the spine diminish the medullary reflex actions in cases of myelitis, and that ascending currents increase or favor the reflex actions. In other terms, it is necessary to place the positive pole on the nape, and the negative pole lower down on the spine.

To this rule there are exceptions, and it has been found from practice that the wished-for sedative effect cannot always be obtained. M. Onimus thinks that these exceptions can be accounted for; in fact, in a case of myelitis affecting the middle portion of the cord, one may attain with descending currents effects differing much according to the distances of the two poles.

If the positive pole be placed on the nape, and the negative pole over the dorsal portion of the spine, but above the presumed seat of the myelitis, the current will have a sedative action, the reflex actions being diminished, and the general rule confirmed. On the other hand, if the negative action be applied to the lumbar region, that is to say above and below the lesion, the positive pole being again applied to the nape, the current, far from calming the reflex actions, may excite them.

The physiological explanation of this fact is as follows: in the second proceeding the lesion interrupts the descending transmission along the cord from the positive to the negative pole, while the negative pole excites directly the segment of the cord situated below the lesion.

ART. 120.—The Action of Mercury.

By ROBERT FARQUHARSON, M.D.

(*British Medical Journal*, February 8.)

Dr. Farquharson states that he is reminded by the unfortunate idiosyncrasy of a case recorded by Dr. Cheadle, of one in which severe symptoms were produced by a very small dose of mercury.

A relative of his own spent many years in the West Indies, and was treated there for fever, according to the fashion of the day, with almost incredible quantities of calomel. Ever since that period she has been so susceptible to the action of the drug as to find it necessary, when consulting any fresh medical man, to lay her peculiarities in this respect fully before him. On arriving in London, however, she was seized with what is popularly called a bilious attack; and, unluckily forgetting to make her usual stipulation, the doctor in attendance naturally enough prescribed a couple of pills containing three grains of calomel and five of colocynth. Furious salivation almost immediately set in, with marked gastric disturbance and general debility; and several months elapsed before either her gums or her strength were restored to their normal condition. This lady's daughter exhibits an almost equal intolerance of mercury in any form; and Dr. Farquharson is thus led to infer that prolonged residence in a tropical climate may serve to encourage, if not actually produce, such a type of constitution.

It is also known that debility has a decided tendency to cause excessive action of this therapeutic agent. Of this Dr. Farquharson remembers a typical instance, which occurred in the Coldstream Guards' Hospital some years ago; two privates having been salivated, one by three, and the other by two calomel

¹ Communicated to the Société de Biologie, Paris.

vapor-baths, each containing twenty grains. This naturally excited some surprise, as the men were robust, and as such accidents rarely happened; but all became clear when it was found that they had inadvertently been kept on very low diet during the four or five days following their admission. The rectification of this error speedily put them all right; but the circumstance impresses forcibly the necessity of combining tonic diet and regimen with anything like a mercurial course. If the patients feed well, have a moderate allowance of stimulant, with iron or quinine, they will fatten and do well; whereas, the semi-starvation enjoined by the dogmas of former days proved its fallacy by the results. With syphilis as the whip and mercury as the spur, patients went downhill with sad rapidity; and not a little of this must have been due to the debilitating influence of low diet.

M. Diday (*L'Histoire Naturelle de la Syphilis*) tells us to beware of the action of mercury in persons with light or reddish hair.

ART. 121.—On the Arrest of Destruction of the Lung in Chronic Phthisis by the Inhalation of the Vapors of Oxygenated Essences.

By Dr. CHÉRON.

(*Gazette Hebdomadaire*, No. 51, 1872.)

"1. The vapors of oxygenated essences, like the powders of these substances, have the property of arresting the destructive progress of phagedanisms, and of favoring the reparation of obstinate ulcers of the cornea, etc. Nothing similar is to be obtained from non-oxygenated essences, of which the essence of turpentine is the type.

"2. The pulmonary caverns of phthisis, when treated by inhalation of these vapors, undergo cicatrization under the influence of this mode of treatment in a great number of cases and in a relatively short period of time.

"3. The expectorated material of all the patients treated in this manner was examined according to Fenwick's method. The presence of the elastic fibres, made out at the commencement, and their disappearance, made out at the end of the treatment, justify the employment of inhalation of oxygenated essences in vapor during the ulcerative period of chronic phthisis.

"4. The free vapors of these substances have but a very feeble tension, and consequently do not sufficiently charge the atmosphere of apartments in which they are allowed to spread. I have, therefore, in my attempts made use of a small vaporizing apparatus, constructed by M. Collin according to my instructions. This drives the air saturated with the vapor into the bronchial tubes with more force.

"5. All the oxygenated essences may be employed with the chance of success. I have made use of the oxygenated essence of Japanese camphor, of cammomile, of cedar, of eucalyptus or eucalyptol.

"6. I prefer the oxygenated essence of *laurus camphoræ*, the odor of which is less penetrating than that of the Borneo camphor. The oxygenated essence of cedar, the odor of which is agreeable and mild, is very well tolerated by patients.

"7. Intense continued fever, great debility, rapidity in the course of the disease, emaciation, all represent so many conditions unfavorable to the success of these inhalations.

"8. The mild and torpid form of phthisis, with partial conservation of strength, abundant expectoration, cough, and oppression, present conditions under which the inhalation of vapors of oxygenated essences give the best results.

"9. Under the influence of this mode of treatment the expectoration, cough, and dyspnœa are relieved, the appetite restored, the strength increased, the hectic fever reduced, and the weight of the patient raised. Finally, in a very great number of cases I have had the satisfaction of observing a disappearance of all the morbid phenomena and a restoration of the patient to good health.

"10. The employment of this means should not in any way contra-indicate

the use of other medicinal agents, and of the usual régime, for it has no specific pretension. It averts the pulmonary destruction, and allows the physician to utilize this remission to the advantage of the patient in combating by appropriate means the tuberculous diathesis.

"11. Here we have but the application of a property of oxygenated essences which has been well determined in recent times. One cannot see any point of contact between this with the unfortunate suggestions which have led some to regard camphor as a panacea, and have at the same time set many physicians against the truly rational employment of this therapeutical agent."

ART. 122.—*On Aspiration as a Therapeutical Method.*

By Dr. HENNEQUIN.

(*Archives Générales de Médecine*, Décembre, 1872.)

"1. Aspiration is an old method, improved and generalized by modern practitioners.

"2. The object of aspiration is to evacuate through as small an opening as possible fluid, gaseous, or mixed collections.

"3. Aspirators, with regard to their mode of action, may be divided into four classes:—

"a. Mechanical aspirators (pneumatic syringe).

"b. Physical aspirators (aspirators of chemical laboratories; condensation of vapors).

"c. Chemical aspirators (absorption of gas or vapor by bodies having for the particular gas or vapor a special affinity, for example, the affinity of potash or lime for carbonic acid).

"d. Aspirators which may be called physiological (the mouth, caoutchouc bags).

"4. Aspiration cannot be practised in the treatment of collections within cavities having rigid walls, except the removed fluid be replaced by another fluid. If this be not done, the effect of aspiration is negative or dangerous.

"5. A fluid or gaseous collection may always be removed by aspiration when the coats of the sac are depressible, and their inner surfaces are capable of being applied to one another.

"6. The evacuation of a collection within walls endowed with but restricted mobility should be in relation with the mobility of the walls.

"7. The evacuation of a collection within rigid walls might be complete, if one of the walls be mobile or expansive (pleural cavity, movable and expansive).

"8. The operation should be stayed when the surgeon finds that the walls of the cavity have reached the limit of their retractility.

"9. Gaseous collections may be discharged without the help of aspiration, which in these cases only hastens the evacuation.

"10. In mixed collections of fluid and gas, it is preferable to plunge the canula into the part corresponding to the lowest layer of the fluid.

"11. In pleural effusions aspiration obtains a continuous discharge, empties the cavity most thoroughly, and allows the recognition of pulmonary adhesions in cases of incomplete evacuation without obstruction of the canula.

"12. The motor agent in aspiration is atmospheric pressure—a pressure which is exercised not only on the surface of the body, but also on the deep-seated portions of organs.

"13. This pressure is sufficient to produce rupture of the vessels and consequently hemorrhages. One can avoid these results only by affording support to the subjected organs. In this way aspiration may be employed as a depletive method.

"14. The collections which may be dealt with by aspiration have increased considerably since the making of recent improvements in the method. In order to obtain a successful result, however, it is necessary to determine the consistence of the fluid.

"15. Exploratory punctures of fluid tumors in the abdominal cavity should be made with very fine needles, and a portion of the fluid contents should be removed in order to diminish the tension of the walls of the sac.

"16. The entrance of air into the interior of collections submitted to aspiration cannot take place at the commencement. It is but under rare conditions that it can take place.

"17. Every aspirator is composed of a receiving vessel, needles and trocars, and an agent for withdrawing the fluid.

"18. The necessary vessel ought to be one of clear glass, proportioned as much as possible to the quantity of fluid in the collection, and furnished with a superior opening.

"19. The utility of the substitution of trocars for hollow needles is demonstrated by mathematics and physiology.

"20. Experience has demonstrated the necessity of giving at least three millimetres of internal diameter to the largest canula, and at the most one millimetre to the smallest.

"21. The most frequently employed agent for withdrawing fluid is the pneumatic syringe; hereafter this may be replaced with advantage by chemical means.

"22. The embarrassments often experienced by the operator in working several cocks has led me to devise an automatic apparatus with one cock.

"23. In order to do away with complications in the instrument, I have through a particular arrangement of suckers, combined in one instrument the pneumatic syringe and the injection syringe."

ART. 123.—*On the Prevention of Pitting after Smallpox.*

By E. WEST SYMES, M.B.

(*The Lancet*, May 25.)

Mr. Symes recommends as a local application to prevent pitting after smallpox, a mixture of one ounce of oxide of zinc to a pint of olive or linseed oil, which he has found most useful in a large number of cases. Mr. Symes has been in the habit also of keeping the room darkened.

ART. 124.—*On Choleate of Soda in the Treatment of Biliary Lithiasis.*

By Professor M. SCHIFF.

(*L'Imparziale*, No. 4, 1873; *Gazette Hebdomadaire*, No. 15, 1873.)

The following is a short analysis of an interesting communication from Prof. Schiff to Dr. Prospero Somsino:—

The Professor deals with biliary calculi of the most common kind, that is to say, those formed by cholesterine united with a little mucus. It is possible, he states, that there may be an excess in the formation of cholesterine in the bile; but as we are quite ignorant of the origin of the cholesterine which is excreted by the liver, we cannot in any way state with precision the cause which may give rise to such an excessive formation. In general, it is on an excess of cholesterine in the bile that calculi depend; this substance is found in the first place in normal proportions; then it is deposited and forms concretions, because the bile contained in the gall-bladder does not contain principles which can dissolve the cholesterine or maintain it dissolved. It is upon this latter hypothesis, confirmed by numerous observations, that the new method of treatment proposed by Prof. Schiff is based; it has over the former the undoubted advantage of bringing to light a therapeutical indication which may prove salutary, whilst the former confines the practitioner to sterile inactivity.

It is known that cholesterine is soluble but in very few organic liquids, and

among the substances contained in the human body the biliary salts (cholates and choleates of potash), dissolved in a slightly alkaline fluid, are those capable of dissolving a small quantity of cholesterine. It is probably the presence of these salts which holds the cholesterine of the bile in solution, and one may suppose that a diminution or a too great dilution of these salts would tend to cause precipitation of the cholesterine; since an absolute or relative diminution of these salts in the gall-bladder may determine the production of biliary calculi composed of cholesterine, an increase in the amount of these salts ought to prevent the precipitation of cholesterine and maintain it in a state of solution.

The dissolving power of these salts, however, is too feeble to justify the hope that one may, by increasing their quantity, redissolve the biliary calculi already formed, and which would be forcibly expelled. Still it may be believed that fresh deposits of cholesterine will not be formed so long as the biliary salts are maintained in the bile in excess.

Such is the basis of the treatment, of which the method is as follows:—

Prof. Schiff recommends to his patients the internal administration of choleate of soda in doses of fifty centigrammes twice in the day. This dose is generally increased until the patient begins to feel the evil effects of the agent.

The phenomena of saturation are characterized by disturbances of the digestive and circulatory organs. The pulse becomes irregular; it is reduced during repose, and is much accelerated by the smallest effort and after the least exercise. In the face of these symptoms the employment of the medicinal agent should not be altogether suspended, but its dose diminished. The untoward influence of this plan of treatment is not observed until after a long interval, as the choleate acts slowly.

ART. 125.—*Methylene Ether as an Anæsthetic.*

By LAWSON TAIT, F.R.C.S., Surgeon to the Hospital for Women, Birmingham.

(*British Medical Journal*, March 8.)

By the introduction of this new anæsthetic, Mr. Tait feels sure that the days of chloroform as an anæsthetic for any but obstetric operations are numbered. The new substance has the following advantages over chloroform. Its action is much more rapid, and is entirely free from the muscular and cerebral excitement often seen in the use of chloroform; the quantity used is less; and sickness after its use is most exceptional, the recovery from the anæsthesia being extremely rapid and complete. Over sulphuric ether it has the advantage that it is very pleasant to take, and that a tenth or twelfth of the quantity is sufficient.

Mr. Tait has used it about thirty times, and in only one instance was there any sickness, and in that case the lady had, just before the administration, been partaking freely of underdone mutton.

ART. 126.—*On the Therapeutical and Anti-putrid Properties of Silicate of Soda.*¹

By M. CHAMPOUILLON.

(*Gazette Hebdomadaire*, No. 8, 1873.)

"Fetid pus derived from a phlegmonous abscess of the thigh, when treated by silicate of soda, coagulates and loses a great part of its odor.

"A concentrated solution of silicate of soda kills microphytes and micro-zoids, which seem to constitute the essence and the mode of propagation of the diseases called infectious. The same solution attacks and concentrates the mucus and albumen contained in organic fluids.

¹ Communicated to the Académie des Sciences, Paris.

"In applying therapeutically the properties of silicate of soda, I have had occasion to make out the following results:—

"As a topical agent, the solution of this salt protects the surfaces of wounds against the absorption of wandering mephitic substances. It purifies suppuration of bad character, and neutralizes the infectious element of cutaneous diphtheria resulting from the application of blisters in overcrowded hospitals.

"When used as an injection in cases of ozæna, a solution of silicate of soda disinfects the material furnished by the pituitary membrane, and diminishes its abundance; but in this respect its efficacy is inferior to that of permanganate of potash.

"An injection of silicate of soda sensibly diminishes a chronic and indolent gonorrhœal discharge; it acts in the same manner against ulcerative chronic diarrhœa, and against vaginal leucorrhœa. Inhalation of this solution in a state of spray relieves more or less completely the peculiar mucous discharge of catarrhal affections of the bronchi, even in cases of senile catarrh.

"No medication, I can assert, succeeds so well as injections of silicate of soda in chronic catarrhal, purulent, or hemorrhagic cystitis. In cases of this kind the silicate of soda opposes the vesical decomposition of the urine; by coagulating the pus it prevents its reabsorption; by unfolding the vesical sac the injection of the silicate is applied to all the anfractuosités, and protects its surface against the painful contact of pus proceeding from pyelitis. No recent catarrh of the bladder will resist the styptic action of the silicate, which acts in some fashion in the manner of a mastic, preventing exudation from the mucous membrane.

"The faculty possessed by the silicate of soda of causing concretion of pŕas, muco-pus, and mucus, presents no inconvenience in the cases of ozæna, of bronchial catarrh, and of diarrhœa; for in all these cases the expulsion of clots remains an easy matter, but their emission may be attended with difficulty when they have been formed in the bladder. Hence the necessity of using with prudence the solution intended for vesical injections."

ART. 127.—On Vesical Injection of a Solution of Silicate of Soda as a means of Removing and Preventing Decomposition of the Urine.¹

By M. DUBRUEIL

(*Gazette Médicale de Paris*, No. 49, 1872.)

For a very long time surgeons have been aware of the difficulty and often the impossibility of preventing the urine of certain patients from becoming decomposed and transformed into carbonate of ammonia, sulpho-hydrate of ammonia, and ammonio-magnesian phosphate. Washing out of the bladder several times in the course of the twenty-four hours, either with decoction of marsh-mallows, or with a more or less charged solution of carbolic acid or some other disinfectant substance, constitutes the most rational treatment.

M. Dubrueil has recourse to the same practice, but injects into the bladder silicate of soda.

There seems to be a necessity for some explanation with regard to the decomposition of the urine. Most frequently, if not always, some germ is required to give rise to the successive series of transformations. No doubt there are very great differences in urines with regard to their tendency to become decomposed; some urine will preserve its acidity for several days. Other urine, on the contrary, will emit a disagreeable odor immediately after it has been passed. But in all kinds of urine the presence of vibrios is necessary for the production of the phenomena of putrid decomposition. As a proof of this the fact might be mentioned of the extreme rarity of fetid urine in a patient applying for the first time to a hospital for instrumental treatment of the bladder.

¹ Communicated to the Société de Chirurgie, Paris.

Catheterism is the sole cause of the introduction of these germs into the bladder, in consequence either of the use of an unclean instrument, or of the simple fact of the entrance of air into the bladder. It is necessary then, in cases of this kind, to endeavor to destroy the germs. The numerous researches of M. Dumas and of MM. Rabuteau and Papillon have established the fact that the salts of soda are anti-putrid. One gramme of silicate of soda placed in a solution of 100 grammes of urea, prevents for an indefinite period decomposition of this urea and its transformation into carbonate of ammonia.

The following case is reported by M. Dubrueil :—

"A man suffering from hypertrophy of the prostate, and subject to attacks of retention of urine, came under the care of M. Dubrueil. The urine was fetid and purulent, and the means previously employed, as detersive injections and repeated catheterism, had failed.

"For several days successively a solution of silicate of soda (1 gramme to 150 grammes of water) was injected into the bladder, and the patient ordered to retain this as long as he was able. The urine soon regained its normal condition, and became limpid. The fetid odor soon entirely disappeared."

ART. 128.—On the Histological Phenomena produced by the Application of Tincture of Iodine to a Cutaneous Surface.

By Dr. MAX SCHEEDE.

(*Langenbeck's Archiv*, Bd. xv. Heft 1; *Gazette Hebdomadaire*, No. 45, 1872.)

The author, in studying the action of certain irritants on the skin, such as nitrate of silver, cantharidine, etc., turned particular attention to the action of tincture of iodine, as this agent presents a means of developing in the skin an inflammation which does not arrive at suppuration. The tincture of iodine was applied to the auricles of rabbits. The immediate phenomena are enlargement and turgescence of the bloodvessels. This congestion affects the veins chiefly, and may extend to such a degree (when the application of the iodine is repeated) as to result in gangrene of portions of this organ. In cases of less intense irritation the congestion results in an infiltration of the tissues by the blood plasma. On excising portions of the affected surface four or five hours after the application of iodine, the author found that the skin had increased very much in thickness, and that fine sections presented an infiltration of plasma. In hardened sections this infiltration was represented by a finely-granular and opaque substance, which rendered further research very difficult. This inflammatory oedema attains its maximum at the end of six hours, and at the end of twenty-four hours has quite disappeared; the preparations then showing a normal transparency of the tissue.

Other marked changes are found in the course of two hours. Numerous lymphoid elements (leucocytes) may be observed, particularly near the veins and capillaries; they increase rapidly in number, and at the end of three or four hours the veins and capillaries are found enveloped in continuous masses of white blood-globules.

These white globules, or the lymphoid corpuscles which cannot be distinguished from the former, increase in size, present segmentation of their contents, and in five or six days seem to be metamorphosed into the fixed corpuscles of connective tissue. This development of new elements goes on for some days: but at the end of fifteen days, the newly-formed elements become granular and fatty and are absorbed.

To resume: tincture of iodine produces congestion, inflammatory oedema, accumulation of leucocytes without the vessels, and formation of new connective-tissue corpuscles, which run through a rapid evolution and finally disappear by fatty retrogression.

ART. 129.—*On the Elevated Health Resorts of Southern Hemispheres, with Special Reference to South Africa.*¹

By E. SYMES THOMPSON, M.D., F.R.C.P., Physician to the Hospital for Consumption, Brompton.

(*The Lancet*, April 26.)

The author observes that, whereas works on special health-resorts suited to the very wealthy and very delicate are almost numberless, there is a need for more general information about those less accessible resorts, which in these days of facile locomotion are within the reach of persons of moderate means.

The profession, and the better-informed portions of the public, realize that chronic chest disease, or a tendency thereto, is not to be combated by a winter or two spent in a sunny health-resort; and that what is needed is a prolonged sojourn in a climate and under circumstances diverse from those in which the disease originated. They therefore manifest increasing readiness to advise the sufferer to undertake a long voyage, and stay several months or years in a well-selected climate.

The author, having had peculiarly favorable opportunities for gaining information about the Australian and South African colonies, trusts that his observations may not be without value to the Society.

The climates are classified, not according to latitude and elevation (Dr. Hermann Weber), but according to elevation and observed mean annual temperature. Isothermal lines are shown by a map to pass through countries in the Southern hemisphere in a very different and much more northerly position than do the isothermal lines corresponding to them in the Northern hemisphere.

Statistics of mean annual observations are misleading as criterions of actual temperature and rainfall, for thus places very dissimilar are grouped together—*e. g.*, Lisbon and St. Helena—in which case the winter temperature of the former is 12° colder, and summer 11° hotter, than in the latter: while a place may have a dry climate and a heavy rainfall—*e. g.*, the Karnatic—and *vice versâ*.

Again, in the same district, the physical geography of the country may lead to vast diversity in forming a sound opinion of the climate; so it is needful to study each place in detail, although the isothermal lines are of service for general indications. So also with regard to latitude, for we must remember that for each parallel of latitude a lower elevation is sufficient for securing immunity from phthisis than in the corresponding parallel of the Northern hemisphere.

After touching upon the difficulty of deciding between the claims of the various European health-resorts, some details are given as to the facilities and advantages of sea-voyages, the superiority of the sea-voyage to India over the Suez route, and of the passage round the Cape of Good Hope over that round Cape Horn.

The first group of health-resorts described is that of the Cape.

Cape Town (lat. 34° S.) itself lies low; it is too hot, and subject to violent south-east winds; but Wynberg, reached by railway nine miles off, is healthy.

Graham's Town (1800 feet elevation) is healthy and somewhat cooler than Pieter Maritzburg, the capital of Natal. It bears the same climatical relation to Port Elizabeth as Maritzburg does to Port D'Urban.

Natal (lat. 28° to 32° S.) has low coast-lands almost subtropical in character, but the land rises in steps or plateaux. Maritzburg, its chief town, fifty miles from the coast, has an elevation of 2000 feet, and the land rises immediately behind to a height of 3800 feet. The prevailing moisture-laden S.E. winds make the rainfall on this ridge considerable, but a few miles inland mist, cloud, and rain lessen. The high table-land extends beyond the Drakenberg Mountains; these form the back-bone of this part of S. Africa, and rise here and there to a

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, April 8th.

height of 9500 feet. The leading peculiarity of the climate is that in winter it has almost constant sunshine and little rain, though abundant rain and cloud in summer, so that the mean temperature of winter is greatly raised and of the summer is agreeably depressed.

The Free State (Orange River or Transvaal) is an elevated (5000 feet) pastoral country extending westward from the Drakenberg. The air is very exhilarating, whereas Natal is somewhat too relaxing for a perfect sanatorium. The character of the climate is described, and the mean temperature, rainfall, &c., exhibited by tables, and evidence, collected from public reports of local medical men, &c., is given as to the prevalent diseases of the country.

Passing westward beyond this, the climate becomes yet drier and the land more sterile, until we reach the rainless and utterly barren country of the interior. The point to be sought is that at which there is no excess of either dryness or humidity, and this is to be found in the neighborhood of the capital of the Free State Bloemfontein. A few years ago there was much difficulty in reaching this place and obtaining suitable provision for an invalid, but the increasing prosperity which has followed in the wake of the diamond discoveries is improving this, and when the railway has taken the place of the slow ox-wagon, it will become easily accessible.

A passing notice is given of the elevated Indian sanatoria, which although north of the equator, are south of the equatorial heat line, and thus meteorologically in the southern hemisphere. Among these are mentioned the Neilgherries, 7600 feet, Neurellia, the sanatorium of Ceylon, and the mountain health-resort above Penang.

The climate of Australia is next compared with that of S. Africa, the Natal winter being more healthy for invalids than summer or winter in Victoria, and the Victoria summer probably more healthy than that of Natal.

Queensland resembles Natal in one respect, that the summer is the rainy season in both; but the former has no table-lands above 2000 feet, an insufficient elevation for this latitude.

The Darling Downs, behind Sydney, are about the same level, rising even to 3000 feet, and there are very healthy stations at nearly 2000 feet elevation on the Murray River.

Mont Lofty, behind Adelaide (2000 feet) is highly spoken of.

The climate of Tasmania is very delightful, but its highest mountains are under 4000 feet, and there are no really elevated health-resorts.

New Zealand is very mountainous, having peaks rising to 12,000 or 14,000 feet, but its ridges are like the Sierra of Spain, and there are no table-lands at any considerable elevation. The extreme windiness of the climate is its chief evil, but sheltered plains may be found as at Cook's Straits.

At the South American resorts on the east coast (Buenos Ayres, etc.) there appear to be no high lands; but on the western coast every important town has its elevated sanatorium. Some of these are highly eulogized, and as compared with the hot and crowded ports below, have doubtless many advantages; but there are few English, and English doctors are rare. The country is dry in many places, exposed to earthquakes, as well as political revolutions. Piura, above the port of Payta, lat. $5^{\circ} 9' S.$, is specially praised.

The Appendix consists of twenty cases, chiefly of lung disease, in which southern health-resorts have been tried. The family history and physical signs of the chest, before and after the trip, are briefly given, with sufficient details for the recognition of the cases and to demonstrate the influence of the climates referred to.

ART. 130.—*The Local Applications of the Derivatives of Tar.*

By L. D. BULKELEY, M.D.

(*Brown-Séguard's Archives.*)

The author gives the following as the most useful formulæ:—

Creasote.—Creasote is of the greatest value in the scaly diseases, as also in relieving itching, particularly in chronic eczema. It is also useful as a wash

in burns and chilblains. For the latter, Devergie advises the following ointment: \mathcal{R} Creasoti, liq. opii subacet., sing. gr. x; ext. opii, gr. jss; adipis, $\mathfrak{z}\text{j}$. M. Creasote has been strongly recommended in erysipelas, in the strength of two drachms to the ounce of ointment, almost a specific effect being claimed for it; also painted full strength over the inflamed surface. Squire has recommended to use creasote in chronic psoriasis, in the proportion of two ounces to one of white wax; the ointment to be rubbed firmly into the eruption morning and night, after removing the scales. McCall Anderson has found it useful, but too irritating in some cases. He adds from five to ten minims to ointments for the purpose of allaying irritation of the skin. Tilbury Fox employs six drops of creasote, with six grains of the nitric oxide of mercury to the ounce, in cases of psoriasis in hospital practice. The official ointment of creasote is of the strength of half a drachm to the ounce.

Coal Tar.—Dr. McCall Anderson (*Practical Treatise on Eczema*) indicates the employment of coal-tar in certain scaly stages of eczema, and gives a prescription whereby an emulsion is produced, on dilution with water, to suit the requirements of the case, and which, he imagines, represents in a measure the "*liquor carbonis detergens*." The following is Anderson's formula: \mathcal{R} Picis mineralis, $\mathfrak{z}\text{ij}$; spiritus rectificati, $\mathfrak{z}\text{ij}$. Cola et adde liquoris ammoniæ fort. $\text{m}\text{v}\text{ij}$; glycerini (Price), $\mathfrak{z}\text{vj}$; aquæ destillat. $\mathfrak{z}\text{xij}$. The "*liquor carbonis detergens*" he alludes to as an excellent preparation. He also uses coal-tar in eczema in the form of an ointment, thus: \mathcal{R} Picis mineral, $\mathfrak{z}\text{ij}$; glycerini, $\mathfrak{z}\text{ij}$; adipis unguent, $\mathfrak{z}\text{jss}$. M.

ART. 131.—*Transfusion of Milk in Cholera.*

By EDWARD M. HODDER, M.D., Toronto.

(*Practitioner*, January.)

Dr. Hodder reports three cases of true Asiatic cholera. In the first, a stout-built farmer, who was in a state of collapse, cold, pulseless, blue, and shrivelled, the secretion of the urine was arrested, and there were vomiting and purging of rice-water fluid. Dr. Hodder opened a vein in the arm of this patient, inserted a tube, and then filled his syringe (previously warmed) with milk, 100° Fah., and injected slowly therewith. No perceptible change, either for better or for worse, took place; so, after waiting two or three minutes, he again filled the syringe, and injected seven ounces more. The effect, he says, was magical; in a few moments the patient expressed himself as feeling better; the vomiting and purging ceased, the pulse returned at the wrist, the surface of the body became warm—in fact the man rallied, and speedily recovered without a bad symptom. The next day, a woman, an habitual drunkard, was admitted in the same condition as the above described man. Dr. Hodder transfused fourteen ounces of milk in a similar manner, and in a few minutes the vomiting and other symptoms ceased and she improved; but towards evening collapse came on, when Dr. Hodder injected fourteen ounces more milk, and she also recovered, but after secondary fever.

The third case was admitted almost *in articulo mortis*, but he rallied for a time, then collapsed, as the woman did, and died during Dr. Hodder's absence.

ART. 132.—*Nitrite of Amyl in Angina Pectoris.*

By W. HERRIES MADDEN, M.D., F.R.C.P.

(*Practitioner*, December, 1872.)

Having recently experienced in his own person the remarkably beneficial action of the nitrate of amyl in cutting short attacks of angina pectoris, Dr. Madden records what he felt. After a sharp attack he at once inhaled five drops, and the effect, he says, was truly wonderful. The spasm was, as it were, strangled at its birth. It certainly did not last two minutes, instead of twenty as formerly. And so it continued. The frequency of the paroxysms was not

diminished for some time; but then they were mere bagatelle as compared with their predecessors, and consequently the drain upon the vital energies was greatly reduced. Under these improved circumstances, strength gradually returned; the attacks became less and less frequent, and finally ceased. Dr. Madden does not profess to give a full scientific description of the phenomena presented by the nitrate of amyl in action. The first effect was often bronchial irritation causing cough; then quickened circulation; then a sense of great fulness in the temples, and burning of the ears; then a violent commotion in the chest, tumultuous action of the heart, and quick respiration. The angina pain then died out, first in the chest, next in the left upper arm, and last of all in the wrist, where it was usually extremely severe. There was not at any time the slightest confusion of thought, or disturbance of vision, but occasionally slight and transient headache. As regards physical signs, the rasping sound was soon modified; but a loud blowing systolic murmur—heard at the base of the heart, along the aorta and in the subclavians, especially the right—continued throughout the illness. One curious feeling which Dr. Madden commonly had, was that the front of the chest seemed to be bulged out in a convex prominence, which suddenly terminated at the lower end of the sternum in a sharp and deep depression towards the spine. This was a purely subjective phenomenon. There was no contraction of the diaphragm, and no retraction of the abdominal walls.

In *slight* commencing attacks, merely smelling the cotton-wool on which a previous dose had been poured was sufficient to relieve the pain. It acted like a gentle anæsthetic without any quickening of the circulation. But in a *severe* attack, the full action of the drug, with its concomitant vascular commotion, was quite essential. The pain never began to yield until the heart was violently affected.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 133.—*On the Treatment of Aneurisms by Electrolysis.*

By JOHN DUNCAN, M.A., F.R.S.E.

(*Edinburgh Medical Journal*, December, 1872.)

The conclusions which may be come to provisionally, with reference to the question, What aneurisms are to be so treated? Mr. Duncan states in a series of propositions:—

"1. *In aneurisms of the great vessels, as the aorta, innominate, and subclavian, which are progressing in spite of proper medical treatment, electrolysis may be hopefully used.*—These are cases which, being beyond the reach of ordinary treatment, would justify heroic measures. Electrolysis is certainly not heroic, and if there be no hope of success, its dangers would not deter. I was formerly of opinion that it was to be used in aortic aneurism only as a means of preventing or delaying external hemorrhage, because I could see little hopefulness in any attempt at complete cure; but the recent Italian cases have modified my views, and I believe that it is proper to insert the needles when a progressing aneurism can be thus reached. I yet limit the operation to those which are getting worse, but I am induced to do so greatly by two cases of aortic aneurism, concerning which Dr. George Balfour consulted me with a view to surgical interference. One of these, which occurred in private practice, had already penetrated the sternum; but as it was not progressing, and as there was evidently no danger from external hemorrhage, we determined to delay yet awhile. This aneurism again retired completely within the thorax. The other case in the infirmary was yet more striking. An aortic aneurism began to grow upwards into the neck, and outwards from between the ribs, with startling rapidity. In a few days it attained a very large size. It was a case in which one would not have hesitated to operate, that the man might have at least a chance. I met Dr. Balfour at the patient's bedside, and we found that what the day before had been a strongly pulsating aneurism, was now simply a collection of blood, fluctuating to the touch, but entirely without pulsation. It slowly grew less, and the man ultimately left the hospital in such a condition that no physical or general sign of aneurism remained. Such cases as these make one hesitate to recommend interference without discrimination.

"2. *Compression, when possible, is preferable to electrolysis.*—While the risks of these two methods are perhaps nearly equal, the success of compression is certainly as yet greater than that of electrolysis.

"3. *Should compression fail, electrolysis is preferable to ligature.*—In a case of popliteal aneurism, were one obliged to choose between ligature and electrolysis, ligature is so sure a remedy that one could not hesitate to employ it. But if compression have been long and carefully applied without success, the condition of parts is rendered less favorable for ligature, and the greater safety of electrolysis would then, I think, weigh down the scale in its favor.

"4. *In cirroid aneurism, electrolysis is easier, safer, and more certain than any other mode of treatment.*—I have already published one successful case. It was of so formidable a character that Mr. Syme had declined to interfere unless a fatal result became imminent. The patient was cured in a few sittings. Other two have come under my observation. Last summer a young gentleman came to me with a small tumor of this nature in the lower eyelid. It was about the size of a pigeon's egg, and pulsated strongly. One sitting of forty minutes'

duration reduced it to a hard and non-pulsating nodule. A large cirroid aneurism of the cheek and side of the head came under the care of my colleague, Dr. Joseph BeH, about two years ago. Many severe measures had been elsewhere adopted without the slightest benefit. After a few operations the pulsation entirely disappeared, and the mass was rendered so hard and small that the man went away to allow the cure to complete itself. He came under my care about a year ago. The tumor had again increased much in size, but without the slightest return of pulsation. The current was passed either by Mr. Spence, in whose ward he was, or by myself, about eight or nine times, and the swelling was again reduced to less than half its size. His general health, however, failed somewhat in hospital; he was sent to the country to recruit, and he has not yet returned.

"5. *In varicose aneurism, in gluteal and in sciatic aneurism, electrolysis is probably the proper treatment.*—I have not had an opportunity of using it in these forms of disease, and I therefore advance this proposition tentatively, basing it on our general experience of electrolysis and on the severity of the ordinary operations which have been undertaken for the cure of these diseases.

"6. *In many aneurisms of small arteries, it is likely to prove a useful addition to our means of cure.*—It has indeed been already several times successfully employed in the lingual, temporal, and radial arteries, and in the palmar arch."

ART. 134.—*On the Pathological Anatomy of Varicose Veins.*

By Dr. CORNIL.

(*Archives de Physiologie Normale et Pathologique*, No. 5, 1872; *Gazette Hebdomadaire*, No. 51, 1872.)

These histological researches are thus given in *résumé*:—

Varices are the result of a chronic inflammation of the veins essentially characterized by the multiplication of the connective-tissue elements of the veins, especially in the inner layer of the middle membrane, by distension and extension of the network of the vasa vasorum, and consecutively by dilatation and calcareous incrustation of the walls of the altered vessels. The walls of varicocoele veins are much thickened by this new formation of connective tissue and by the dilatation of the vasa vasorum. From this chronic inflammation, from the calcareous degeneration, and the distension of the wall after the partial disappearance of the middle membrane, varices may approach in character chronic endo-arteritis. The latter, however, differs with regard to its peculiar fatty and atheromatous degeneration.

ART. 135.—*On the Phenomena Produced by the Injection of Air into Veins and Arteries.*¹

By M. LABORDE.

(*Gazette Hebdomadaire*, No. 10, 1873.)

In this paper M. Laborde gives the definite results of experiments made by himself and M. Muron on the effects produced by the injection of air into the arterial and venous vessels of dogs. Notwithstanding all the previous labors made on this subject, there were still some points to be elucidated. For example, contrarily to the conclusions derived from the experiments of M. Tillaux, air can traverse the capillaries; this fact may be directly verified by injecting air into the carotid of one side towards the head, while the exposed jugular vein of the other side is observed. There are great differences in the arterial or venous injections, according to the rapidity of the introduction of air, and

¹ Communicated to the Société de Biologie, Paris.

according to the quantity injected. If one injects air into an artery—for example, the peripheral end of the carotid—slowly, and in a dose of from ten to fifteen cubic centimetres, the animal does not die immediately, but presents tetanic convulsions, coma, attempts to vomit, and finally, after a period more or less prolonged, dies. At the autopsy will be found veritable gaseous emboli in the capillaries, and arterioles of the bulb, with bulbar ischæmia, and even with hemorrhages. If air be injected in larger quantity, from twenty to sixty cubic centimetres, at the peripheral end of the carotid, the animal rapidly becomes convulsed, the respiration is suspended, the left ventricle filled with air, and the coronary arteries with air-bubbles; the encephalon is found congested, and air-bubbles are found in its vessels and capillaries. If, on the other hand, air be injected into a vein, one may, by proceeding slowly, cause a considerable quantity, about fifty cubic centimetres, to penetrate without the slightest accident.

M. Laborde succeeded in injecting, in the course of two hours, as much as 600 cubic centimetres of air into the veins of a dog, without producing a fatal result.

In order to cause death, much larger quantities of air are required for venous than for arterial injections. Thus with between 100 and 200 cubic centimetres of air (instead of between 20 and 25) one will bring about convulsions, resolution, and death. At the autopsy will be found extreme distension of the right ventricle, which contains clot mixed with air. According to M. Laborde, the mechanism of death in these different cases is to be explained in two ways. The air mixed with blood which traverses the capillary network does not produce in the lungs a sufficient amount of lesion to produce death. Air injected into the arteries causes death through the arrest of the circulation in the medulla oblongata. Air injected into the veins causes death through distension and loss of contractility of the right side of the heart. In all cases the air acts, not as a poisonous agent, but as an agent of mechanical obliteration—that is to say, by producing gaseous embolism.

ART. 136.—On *Furuncle and Carbuncle, and their Abortive Treatment*

By Dr. THEODOR ROTH.

(*Deutsche Klinik*, 33-39, 1872; *Schmidt's Jahrbücher*, No. 11, 1873.)

The author censures the prevalent confounding of the terms carbuncle, anthrax, and pustula maligna. The latter term he reserves for malignantly gangrenous infection, whilst he uses the synonymous words anthrax and carbuncle for the well-known skin affections. As a matter of fact, carbuncle represents an advanced stage of furuncle, although it differs from this in its great tendency to extension, in its slight elevation above the surface of the skin, in its tolerance of pressure, and in its resulting in gangrene of all the affected cellular tissue. Furuncle, on the other hand, is very painful; projects as a pointed swelling; causes death of only a portion of the indurated cellular tissue, and never attains a very large size. Both affections have their starting-point in the rete Malpighii and in the neighborhood of sebaceous glands.

The author's treatment consists in the application, repeated every two hours, around the circumference of the furuncle or carbuncle of a portion of gray ointment, as large as a pea, and over this a piece of lint, completely impregnated with the same agent. If the treatment be commenced sufficiently early, pain and inflammation cease, and a doughy tumor is left which may afterwards be rapidly resolved on the use of mercurial and conium plaster. In advanced cases where sloughing has already commenced, the inflammation may yet be cut short, so that instead of extensive sloughing, only small and inconsiderable abscesses appear, which, when treated with mercurial plaster, soon disappear. When profuse suppuration has already taken place, nothing remains save incision of the tumor.

According to Dr. Roth's experience, the above-described method is superior to other proposed abortive methods, such as local bleeding, and the application of ice, nitrate of silver, or iodine.

ART. 137.—*Rodent Cancer.*

By J. W. HULKE, F.R.S., Surgeon to the Middlesex Hospital.

(Medical Times and Gazette, January 11.)

Some of the lessons which the cases related by Mr. Hulke teach are:—

1. Not to think too lightly of small, hard pimples and warts in the face in persons advanced in life, but promptly and thoroughly to excise them, especially if they show a tendency to grow, ooze, and scab. Their complete excision, together with a broad fringe of sound tissue, will probably secure a future immunity. It is advantageous to close the fresh wound when large with a flap of sound skin from an adjoining part.

2. Never to try to destroy them with nitrate of silver, as is too often done, because its action is too superficial and its use seems often to hasten their progress.

3. When the surface of the ulcer is so irregular that complete excision is impracticable, it should be supplemented by freely burning with a hot iron those parts which could not be reached with the knife, and by the free application to them of the chloride of zinc paste.

4. Some apparently desperate cases at an advanced stage may thus be treated very successfully, if the patients possess confidence and docility.

5. Such composite operations are well borne by persons in advanced years if care be taken to avoid much bleeding.

ART. 138.—*On Rodent Ulcer.*

By J. C. WARREN, M.D.

(The Anatomy and Development of Rodent Ulcer. Pp. 66. Boston, 1872.)

With regard to the *development* of rodent ulcer, Dr. Warren says:—

"In summing up, then, the result of these observations, we find that in certain cases:—

"1. The formation of the cancer-cells is preceded by an escape of the white blood corpuscles through the walls of the vessels, and an accumulation of similar cells in the adjoining lymphatic canals.

"2. That this is followed by an apparent transformation of these cells into cells resembling strongly the epithelium of the rete Malpighii.

"3. That the epithelium of the parts affected does not appear to take an active part in the process, but may exert a certain influence on the character of the formation taking place.

"4. That the cancer-cells lie in the lymphatic spaces of the connective tissue, and do not invade, to any appreciable extent, the lymphatic vessels. . . .

"The cancer-cells, when once formed, appear to possess little power to multiply themselves by further proliferation. The masses of cancer-cells certainly do not show any signs of such activity. We find no evidences of an active cell proliferation, and consequently no active outgrowth into the neighboring tissue. . . . In rodent ulcer, the cells rarely extend a line or two below the surface of the ulcer, and beyond its edges. The lymphatic vessels, as we have seen, are invaded at the most to a very limited extent, while in other forms of cancer the cells penetrate freely into the lymphatic network about them, and by repeated multiplication are enabled to continue their progress until conditions are arrived at most favorable for the infection of the adjacent glands. The low formative power of the elements, the absence of power to multiply themselves to any extent, when once formed, and their extremely short-lived character, seem to afford the most satisfactory explanation of the inability of the disease to affect distant parts."

ART. 139.—On the Treatment of Wounds by Alkaline Applications.

By R. T. MANSON, M.R.C.S.E., etc., Howden.

(British Medical Journal, October 5.)

Alkalies, as local applications, check alkaline secretions. Laudable pus has an alkaline reaction. The application of alkaline substances may therefore be supposed capable of beneficial action on pus-secreting surfaces. The official linimentum calcis, spread on fine cotton-wool and applied to the surface of a wound, seemed to afford the best method of testing the value of the theory. It has been tried by Mr. Manson in a great variety of surgical cases, from bruised fingers to amputations, and with uniform success. The advantages of its use are said to be: lessening the secretion of pus from a wound; easiness of application; extreme adaptability to irregular surfaces; prevention of the access of atmospheric air to the wound; promotion of healing by first intention, or, when that does not occur, promotion of healthy granulation; doing away with the use of nitrate of silver or sulphate of copper; ease to the patient, and saving of time to the surgeon. Used on lint, the linimentum calcis is not nearly so valuable as when used on fine cotton-wool. Lint does not get into the holes and corners of an irregular wound as cotton-wool does; it is not removed so easily; it becomes more easily dried and hardened, and possesses less of the nature of an artificial skin than cotton-wool. Linimentum calcis has long been used for burns and scalds. Some surgeons think it a nasty application; but when made with olive-oil instead of linseed-oil, as was formerly the case, the nastiness is abolished. The *modus applicandi* is as follows: On a piece of fine cotton-wool, rather larger than the surface of the wound to which it is to be applied, the linimentum calcis is poured and spread over the wool, which is then placed over the wound and covered with common wadding. Either bandages or strips of plaster may be used to keep the lint in position.

ART. 140.—On Cleansing of Wounds.

By G. W. CALLENDER, F.R.S., Surgeon to St. Bartholomew's Hospital.

(The Lancet, January 25.)

At a meeting of the Clinical Society on January 10th, Mr. Callender brought before the notice of the members the arrangement adopted in his wards at St. Bartholomew's for the use of camel-hair brushes for the cleansing of wounds. He pointed out the importance of gentleness in their dressing, and stated that, by using the brushes, the cleansing of a wound was no longer in any instance a painful process. The chief object, however, of the plan recommended, was to do away with the employment of sponges and other materials commonly used for cleansing wounds, and which some surgeons believe to be a frequent cause of the passage of infectious material from one patient to another. During nearly two years, of 148 patients operated on, excluding hernia operations, in the wards, only four had died.

ART. 141.—On the New French Method of Dressing Wounds by Cotton Wadding.

By WALTER REID, M.D., Surgeon R.N.

(The Lancet, April 26.)

A new method of dressing wounds at present attaining great popularity amongst French surgeons, is that which is known as the "*pansement ouaté*" of M. Alphonse Guérin, of the Hôtel Dieu. It consists in the use of large quantities of cotton-wadding, somewhat after the manner of treating extensive burns by the same material.

The advantages contended for by the advocates of the "pansement ouaté" are—

1. Avoidance of the action of the air, which irritates not only by its physical properties, but also by reason of the minute organized bodies which it holds in suspension.

2. A compression, firm, elastic, and sustained, which moderates the afflux of the blood, and produces rigorous immobility of the parts, both in themselves powerful antiphlogistic agents in the treatment of wounds.

3. Remarkable diminution and frequently total absence of pain.

4. Constant uniform temperature of the parts, also an important agent in the treatment of wounds.

5. The ease with which it is applied, and the avoidance of the evil consequences of dressing the wound daily or every two days.

6. The protection afforded locally, thus facilitating the transport of the sick and their dissemination in crowded hospitals.

Lastly. The statistics of M. Guérin show a very marked diminution in the mortality of his large operations since his adoption of this method. Thus, during the troubles in Paris, when his wards were crowded with wounded men, under the worst conditions, nearly all his large operations were fatal; but after its employment he had nineteen successful cases out of thirty-four large operations.

ART. 142.—On the Treatment of Arterio-Venous Wounds complicated with Diffuse Aneurism and Non-cicatrization of the Cutaneous Wound.¹

By M. LE DENTU.

(*Gazette Hebdomadaire*, No. 12, 1873.)

1. Immediately after the accident direct compression should be made on the wound and on the sac in order to favor cicatrization of the skin and the subcutaneous tissues.

2. In cases where the wound has not cicatrized and the sac is on the point of bursting, double deligation should be practised of the artery and vein above and below the sac, and as near as possible to it.

3. In cases where the sac has burst it would be necessary to carry out the same treatment and also to make large incisions in order that the wound may be washed out and septicæmia prevented. This method should be preferred to deligation of the vessels in the sac itself, as in the old method, because by applying the ligatures at points removed from the arterio-venous orifice one places them on parts of the vessels which are less likely to have undergone morbid changes.

4. Partly as a corollary of these conclusions, it may be added that in a case where one has been led by force of circumstances to operate on an arterio-venous aneurism according to the old method, it would be prudent to carry a double ligature around the extremities of the vein whenever the dimensions of the vessels are such as to suggest a risk of secondary hemorrhage.

ART. 143.—Treatment of Gunshot Wounds.

By M. LEGUEST, Inspecteur du Service de Santé de l'Armée.

(*Traité de Chirurgie d'Armée*. Deuxième édition. Paris, 1872. Pp. 793.)

The treatment of simple gunshot wounds should itself be simple. The local applications may consist of simple dressings or cold lotions, the former of *linge fenêtrée* or a pad of charpie supported by a light compress. This dressing should remain untouched for a few days, or until the occurrence of suppuration

¹ Communicated to the Société de Chirurgie, Paris.

renders its removal easy and little painful. Water at the ordinary temperature is the best local application that can be made use of, and it is recommended to be used by means of thick compresses, pressure by bandages being condemned. The application of water is contra-indicated in cases where it gives rise to disagreeable sensations on the part of the patient. The introduction of setons into the track of gunshot wounds is condemned.

ART. 144.—*Foreign Bodies in Wounds.*

By GEORGE JOHNSON, M.D., F.R.C.P.

(*The Lancet*, November 30.)

At a meeting of the Clinical Society of London, November 8th, Dr. George Johnson related a case in which trismus, with facial neuralgia and palsy, and a recurrence of epilepsy, were excited by a foreign body in a wound on the cheek. H. M—, aged forty-four, a wheelwright, was admitted into King's College Hospital on July 17th. On July 4th, he was cut on the cheek by a blow from an iron axle that fell against his face. The wound, having been washed, was strapped up by a chemist; it healed, but remained very painful. On the evening of the 12th he had an epileptic fit. In early life he had been subject to epilepsy, but, until the occasion mentioned, had been free from fits for twelve years. On the morning of the 13th he had difficulty in opening the mouth and in closing the left eye. This difficulty continued, and increased until the time of his admission on July 17th. The left side of the face was paralyzed, the features being drawn to the right. When he attempted to shut both eyes the left remained partly open. He could separate the incisor teeth only to the extent of one-eighth of an inch. The left masseter muscle felt permanently hard and rigid. Severe pain was felt over the left side of the face, with a sense of numbness in the skin. There was a scar, about three-fourths of an inch long, an inch below the left eye; the cicatrix being hard and very tender on pressure. Asked if he thought it probable that dirt had got into the wound, he said that the iron which struck him was covered with grease and dust. Dr. Johnson then directed Mr. Birch, the house-physician, to cut through the cicatrix; and, this being done, a sharply angular piece of flint, nearly as large as a grain of wheat, was discovered and removed. It weighed half a grain. Water-dressing was applied to the wound. At first no medicine was given; but after the second day, as he continued to suffer from pain which disturbed his rest, twenty grains of chloral hydrate were given twice in the twenty-four hours. The symptoms gradually passed away. The pain subsided; the muscles closing, the jaw relaxed, and the facial muscles recovered their power. When he left the hospital on the 29th there was still a trace of facial palsy; but on August 9th, when he came as an out-patient, he reported himself quite well. On September 26th he again presented himself, and said that he had continued well. He appeared in perfect health. Dr. Johnson referred to a similar case which he had published (*Proceedings of the Royal Medical and Chirurgical Society*, 1870-1). A boy, aged thirteen, was admitted in June, 1870, with trismus and tetanic rigidity of the trunk and extremities. The symptoms, which had existed for rather more than a week, had commenced about ten days after a wound on the thigh by a sharp piece of wood. The wound had healed, but the cicatrix was hard and very tender on pressure. While examining the case, Dr. Johnson remembered two fatal cases of traumatic tetanus referred to by Dr. Alfred Taylor in his book on Poisons (second edition, p. 143). In both cases the wound had healed; but in one there was found after death, beneath the cicatrix, a piece of iron, and in the other a splinter of wood. Dr. Johnson then requested Mr. Whitmore, the house-surgeon, to incise the cicatrix; and, this being done, a piece of woollen stuff, of the size of a small pea, was discovered and removed. The stick which wounded the boy's thigh had pierced his trousers, and, carrying with it a piece of cloth, had left it in the wound. Fifteen grains of chloral were given every six hours for a few days. The symptoms gradually subsided, and he was dis-

charged well on July 27th. Dr. Johnson remarked that the chief interest of the two cases consisted in the fact that formidable nervous symptoms were excited by the presence of a foreign body of small size beneath the cicatrix of a recently healed wound. The two foreign bodies—the angular bit of flint and the small lump of wool—were exhibited to the Society.

ART. 145.—*Hemorrhage and its Treatment.*

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery.* 8vo. pp. 984. London, 1873.)

In speaking of torsion as the best method of arresting the flow of blood from a divided artery, Mr. Bryant says:—

“In a physiological point of view there is no method at the surgeon's command more perfect for the control of hemorrhage than that of torsion; for unlike acupuncture, which uses one only of nature's hæmostatic processes, or the ligature, which is a foreign body in a wound, and becomes a source of danger by undoing at a later period of the case what has been done at an earlier by nature's own efforts, it utilizes to the utmost all the physiological processes employed by nature to prevent and arrest bleeding, and places them in the most favorable position to take effect.” “Plastic lymph is poured out by the divided tunics in the same way as it has been shown to be in the application of the ligature, and it acts the same part in cementing all the arterial tunics and clot together; but there is this difference between the two forms of practice, that where the ligature has been used, the ulceration of the vessel that is necessary to allow of its escape may undo all that nature has done to seal the artery and prevent hemorrhage; whereas, when torsion has been efficiently performed and the hemorrhage arrested, no subsequent action is liable to undo the good work that has been done, or hinder the permanent closure of the vessel.

“The physiological arguments in favor of torsion are very great, and the practical advantages seem to be no less, for after three years' experience of the practice applied to vessels of all sizes, the femoral being the largest, I have had no mishap. Wounds have united more rapidly and kindly. Primary union being the rule, there has been less constitutional disturbance after operation, and consequently less liability to traumatic fever, pyæmia, and other complications, such as we are all too familiar with in the practice of surgery. I have had stumps heal in a week, and patients up in two weeks, without one single drawback; rapid and uninterrupted convalescence following the operation. In other cases equally good success can be recorded.

“When a true antiseptic ligature has been found, by which a vessel can be secured without the introduction of any permanent cause of irritation, the above comparison will not hold good; but at present it is not in existence, although Mr. Lister's investigations in that direction with catgut ligatures steeped in carbolic acid are encouraging in the extreme.”

ART. 146.—*Torsion, as a Means of Arresting Hemorrhage.*

By WILLIAM COLLES, M.D., F.R.C.S.I.

(*Irish Hospital Gazette*, January 15.)

Dr. Colles points out the objections to the ligature and acupuncture, as means of arresting arterial hemorrhage, and states, as the result of his observations, that torsion is the safest and simplest means of arresting bleeding in wounds. He recommends that the artery should be as free and isolated from surrounding tissues as possible, and that the surgeon should hold the parts at the point of the forceps, so as to cause the twisting to commence at the forceps, and from this gradually extend upwards along the vessel.

The method of applying torsion he recommends, is that proposed by Mr. Syme, “merely catching the vessel and twisting, without the appliance of the second forceps. Thus we have the inner coats forcibly separated from the outer

coats, driven inwards in the vessel so that the two sides come to be applied close together, and the more we twist the external coat the higher the separation of the inner coats takes place. The outer coat is twisted, and retains its new form and position; there is nothing to cause it to untwist. This twisting may be continued till the end in the forceps comes away, which is, I think, to a needless extent; or two or three turns may suffice, and the forceps be then removed. We thus have a perfect obstruction to the flow of blood; the inner coats so inverted, that they cannot be forced back again, and a coagulum soon forms inside; and the outer coat, not much altered from its normal healthy condition, but changed in shape so as to prevent any possibility of the blood passing through it.

"We thus have the bleeding arrested, without the possibility of its recurrence, either immediate or remote, which is the great superiority of this mode of treatment. Besides this, we have the cause of inflammation at its minimum in the wound; and thus the patient is able to be up and about in a much shorter time, as there is no fear of secondary hemorrhage. There is less inflammation or unhealthy action in the wound, and the chances of immediate union are much promoted."

Torsion, however, he observes, cannot be applied, in the manner he advises, where it is wished to arrest the current of blood in the continuity of the artery; but he throws out the suggestion that it may be accomplished by laying bare the artery, catching it transversely in a narrow forceps, and pressing it so as to divide the inner layers, and then pushing them away from the outer coat upwards, and also downwards, leaving the outer coat *in situ*, and to contract.

Mr. J. P. Hayes believes (*Irish Hospital Gazette*, Feb. 1st, 1873) that it would be a safer procedure to grasp the vessel transversely, at two points—say two-thirds of an inch apart—with a pair of narrow-bladed forceps, and to *divide it completely* midway between the compressed portions. Torsion in its entirety could then be applied to the proximal and distal orifices of the severed vessel.

Should it be found a difficult matter to seize the artery in the manner described, an aneurism needle, armed with a double cord, would enable the surgeon to place two ligatures on the vessel, with an interval of a few lines between them, as the site for *section*. After adequate torsion, each ligature with the included portion of arterial wall should be cut off, and so neither foreign substance nor sloughing tissue could interfere with the process of union between the lips of the wound.

ART. 147.—*On the Means of Augmenting the Length of Bones and of Arresting their Growth; Application of Experimental Data to Surgery.*

By M. OLLIER.

(*Gazette Médicale de Paris*, No. 15, 1873.)

The following communication was presented to the French Academy of Sciences by M. Nélaton:—

"I have demonstrated by experiments on animals, that we can considerably modify the increase of bones by irritating them during their period of growth. According as the irritation is applied to this or that point, is the length of the bone increased or its growth arrested. Any diaphysial irritation, provided it attain a certain degree and be sufficiently persistent, produces elongation of a bone, whilst irritation applied to the periosteum, the medulla, and the osseous substance properly so called, either separately or simultaneously, gives rise to hypertrophic phenomena.

"The means of producing this irritation, and, consequently, elongation of a bone, are very numerous and very varied. Laceration, incision, excision, cauterization of the periosteum, irritation of the medulla by perforation, comminution, and the introduction of foreign bodies, are all followed in young animals by an elongation of bone. It is unnecessary to attain suppuration in

order to produce this result. Subacute but prolonged irritation is the most efficacious and the least dangerous means.

"The excess of growth thus produced is proportional to the persistence of the irritation; it may extend even to the tenth of the total length of the bone. In man I have found it still more considerable after spontaneous osteitis.

"This elongation of a bone takes place, not by interstitial growth of the osseous substance (this, indeed, plays a secondary part), but by increased activity in the proliferation of the cells of the conjunctive cartilages. As in normal growth, cartilage is the principal and almost exclusive agent of the increase in length of bone.

"The activity of cartilage is thus over-excited by the propagation of irritation, the starting-point of which is seated in the diaphysis; but if this indirect irritation increases the physiological activity of cartilaginous tissue, direct irritation of the same cartilage, that is to say, irritation of its proper tissue caused by puncture, laceration, etc., produces quite different results. Whether it be slight or intense, this direct irritation of conjunctive cartilage nerve produces elongation of bone. If it be slight, it does not appreciably influence the bone; if it be intense it produces an arrest, proportioned to the importance of the irritated cartilage in the longitudinal growth of the bone.

"Intense irritation of this cartilage by repeated crushing and laceration of its substance disturbs the evolution of its cellular elements, and, without always hastening ossification, produces, as a definite result, a sensible arrest of growth.

"Partial or total destruction of the cartilage by excision or repeated crushing, arrests partially or completely elongation at the osseous extremity thus treated. If the cartilage be removed, and at the same time a thin disk comprising the whole thickness of the bone, the arrest of growth is complete. If but a portion be excised, the growth is arrested at the level of the part removed; but as it continues in the parts of the cartilage which have been left intact, there result, independently of a more or less marked arrest of the general increase of the bone, various irregularities in the length and curvature of the bone.

"The removal of periosteum, or the evacuation of a portion of medulla, does not produce, with regard to the growth of bone, the same result as removal of cartilage. Periosteum and medulla are rapidly reconstituted by the proliferation of elements existing in these tissues.

"After the removal of long strips of periosteum from the diaphysis of a long bone, there results an increase in the length of the denuded bone. This denudation of bone acts like all injuries affecting a diaphysis, that is to say, by the irritation which it occasions of other vascular tissues of the bone.

"Irritation of the middle portion of a diaphysis causes the greatest elongation of bone. Irritation of its terminal (juxta-epiphyseal) portions sometimes produces an inverse result; when the irritation is intense, and suppurative inflammation reaches as far as the limits of the cartilage of conjunction, it will be propagated to this cartilage, and cause its partial or total destruction. Consequently acute inflammation of the whole of a diaphysis, reaching even to its limiting cartilage, will be followed by an arrest of growth; the cartilages at the limits of the osseous suppurations are either destroyed or their activity is profoundly modified. A bone thus inflamed is in the same condition as a bone the two conjunctive cartilages of which have been artificially destroyed.

"These experimental data are completely confirmed by clinical observation. and surgeons observe in man sometimes elongation of an inflamed bone, and at others an arrest of growth. Experimental facts supply us with explanations of this; I refer to my work for the details of my experiments on the different lesions capable of influencing of bone. It remains for me to demonstrate that these experimental data are applicable to surgery, and that we may, in certain cases, in man as in animals, arrest or further the growth of bone.

"It need scarcely be remarked, that all the proceedings for causing irritation which I have used on animals are not applicable to man. Several would be pregnant with danger, especially those which act upon the medulla. Irritation of the medullary tissue exposes the patient to the risk of very serious septicæmic symptoms, and if it result in suppuration, will, in certain cases, be almost inevitably followed by pyæmia; but if care be taken to avoid attacking

the medulla directly, and to reject absolutely certain irritative proceedings which are dangerous even in those animals which best tolerate injuries, one may, in proceeding with precautions which are the rule in all interference with man, irritate the periosteum or act on a conjunctive cartilage. We shall thus have at our disposition a means of elongating bones (irritation of the periosteum), and a means of arresting their growth (direct irritation, destruction of conjunctive cartilages).

"These operations would not be applicable to all the bones of the limbs. Several of these organs, by reason of their deep situation, and of the relations of their extremities with corresponding synovial membranes, could not be attacked without danger. The bones of the leg and forearm, however, that is to say, those bones in which these operations would be most frequently indicated, supply favorable organs from an operative point of view.

"In what cases might we intervene with these proceedings? I am unable, in this succinct communication, to pass in review all the cases in which it might be necessary to modify the growth of bones. I restrict myself to the mention of two examples, which will render clear the indication to be fulfilled and the aim to be proposed. It is especially in cases of unequal development of the parallel bones of the leg or forearm, that modification of the growth of these bones would be useful, in order to remedy the deformities of the hand and foot resulting from this inequality of growth.

"If the growth of the radius, for example, be diminished or arrested by epiphyseal osteitis with a morbid change of its inferior conjunctive cartilage, the ulna, continuing to grow according to the laws of its normal development, will project beyond the radius inferiorly. The hand will then be displaced at the radial margin of the limb, and will undergo a very unpleasant direction with regard to form, and a very disturbing one with regard to function. If in a case of this kind the growth of the ulna be arrested by destroying its inferior conjunctive cartilage, the direction of the hand may be made to cease, the extremity gradually returning to its normal position as the radius grows.

"Let us suppose, on the other hand, osteitis of the middle portion of the diaphysis of the radius with considerable hypertrophy of this bone. The ulna, remaining healthy, and uninfluenced by the inflammation of the neighboring structure, cannot keep pace with the radius in its elongation, and though increasing regularly in length, is soon found to be too short. Hence there results a direction of the hand which becomes more and more inclined towards the ulnar margin of the forearm. An efficacious means for remedying this deviation of the hand is stimulation of the growth of the ulna. The superficial position of the diaphysis of this bone will permit the surgeon to act upon its periosteum, either by subcutaneous irritation or by cauterization, in order to excite an activity which would result in hypertrophic elongation of the bone."

ART. 148.—*On Ostitis in Relation to the Elongation of Bones.*

By M. A. PONCET, of Lyons.

(*Gazette Hebdomadaire*, No. 49, 1872.)

1. Ostitis, as has been demonstrated by the researches of M. Ollier, acts differently on the increase of bone according to the seat which it occupies.

2. Ostitis of the middle portion of a diaphysis, occurring during the period of growth, causes elongation of the bone.

3. An arrest of development is observed in cases of juxta-epiphyseal ostitis when the inflammation is seated quite at the boundary of the cartilage of conjugation and affects this cartilage.

4. Diaphyseal inflammation, especially when it is mild and chronic, may cause elongations of the femur and tibia to the extent of seven or eight centimetres; most frequently, however, the difference between the limbs does not extend one or two centimetres. I have also noticed considerable shortening in cases where the inflammation had invaded and destroyed the cartilage of conjugation. Inflammation affecting the totality of a diaphysis and followed by supuration at

the boundaries of the cartilages of conjugation, causes an arrest in the growth of the bone.

5. Experimentation permits one to account for these different effects of inflammation according to its seat. It shows that irritation and injury of a diaphysis may result in an elongation, whilst the same causes will produce an arrest of development when acting directly on the cartilage of conjugation; they are sufficiently intense to disturb or prevent its evolution.

6. Hypertrophic elongation is seldom appreciable except in young subjects and during the period of the growth of the skeleton; when once the anchylosis of the epiphyses has been perfected, it is rarely, or at least with difficulty, recognisable on the living subject. Some cases, however, have been reported which show that after the fusion of the epiphyses a slight elongation of an inflamed bone may be the result of an interstitial growth.

ART. 149.—*Vaccinal Syphilis.*

By JONATHAN HUTCHINSON, F.R.C.S., Surgeon to the London Hospital.

(*Medical Times and Gazette*, February 1.)

At a meeting of the Royal Medical and Chirurgical Society, Jan 28th, Mr. Jonathan Hutchinson read "A Second Report on the Communication of Syphilis in the Practice of Vaccination." This paper contains an account of two series of vaccination-syphilis (each series containing but a single case) which have come under Mr. Hutchinson's notice since his last communication on the subject in 1871. These two cases (forming the author's third and fourth series) are prefaced by a few remarks referring to cases published by others on the Continent and at home; the author also reasserts the great importance of making all such cases public. The latter part of the paper is occupied with general conclusions and recommendations drawn from a consideration of all the cases which have come under Mr. Hutchinson's notice.

Third Series.—Case: This patient was a respectable small tradesman, forty-six years old, who came under Mr. Hutchinson's care at Moorfields Ophthalmic Hospital with double iritis. Examination disclosed the presence of a copious dusky rash and symmetrical ulcers in the tonsils. The ordinary questions as to syphilis were denied, and careful inspection of the genitals gave an entirely negative result. On one arm, however, two or three scabbed ulcers were found, as large as shillings, with dusky, indurated borders; and there was an indolent bubo in the corresponding armpit. He said that the sores on the arm had broken out at the seat of the vaccination-punctures. He had been vaccinated three months before admission; the punctures took, and behaved as usual; but when just healed over, a month after the operation, they inflamed and broke out into sores. About a fortnight later (six week after vaccination) the rash appeared, and at the end of another month the iritis set in. The nature of the disease had not hitherto been diagnosed, and no specific treatment had been used; under the use of mercury both iritis and rash were cured. This man was seen by many medical men at the hospital during the two or three months of his attendance, and there could be no shadow of doubt about the nature of his malady. Although his vaccinator had not diagnosed this man's case, he had had much trouble with the arm-sores, which, from his subsequent account, would appear to have been at one time almost phagedænic. Besides the patient, about twelve others were vaccinated from the same baby, three of them being the patient's children, young adults; in these three no ill results have occurred; the remaining cases have not been pursued further (for prudential reasons detailed in the paper), but the vaccinator believes that none of them had any trouble, save one or two in whom a little difficulty occurred in the healing of the vaccination spots. The vaccinator said that the baby used appeared in excellent health at the time. When seen by Mr. Hutchinson at eight months old, it was fat and well grown, the only sign of inherited syphilis being the markedly sunken bridge of the nose—a symptom to which the author attaches considerable importance, and from which he predicts with some con-

fidence the future occurrence of confirmatory events. The child was the third and the only living one, the first two having died in infancy. In favor of this man's syphilis having been gained during vaccination, we have the occurrence of induration, etc., in the vaccination scars at exactly the interval which is known from former cases to elapse between inoculation with syphilitic virus and the formation of the chancre; the occurrence of axillary indolent bubo; the eruption and other secondary symptoms following the arm-sores at the proper period; and lastly, the total absence of any trace of chancre elsewhere, and the extreme improbability of syphilitic inoculation of the vaccine sores after the vaccination. Against this conclusion there are only the negative facts afforded by the apparent immunity (which may, however, yet be disproved) of the other persons vaccinated, and the slight evidence of syphilis in the vacciner; the latter being what is to be expected, since no one would think of vaccinating from an obviously syphilitic child.

Fourth Series.—Case: A lady, about forty-five, who came to Mr. Hutchinson as a private patient in December, 1872, for a vascular growth from the urethra. During examination the remains of a copious, dusky, evidently syphilitic rash was found. On inquiry, she stated that she had been very ill after vaccination, and had had a severe rash and inflammation of one eye. Further examination showed the presence of a dusky scar at the seat of one of the vaccination-punctures, very different indeed from a normal vaccine cicatrix; synechiæ were also found in the left eye, proving past iritis. She was vaccinated in May, 1871, by four punctures, none of which took; just a month later one of them inflamed, and became a hard-edged ulcer, lasting three months. Two or three weeks later (about two months after vaccination) the rash appeared copiously, and she fell into ill-health. From the vaccination in May to the early part of September, she had no specific treatment, which probably accounts for the severity of the rash, etc. After this she took small doses of iodide of potassium and bichloride of mercury, under another practitioner for nine months, when she ceased all treatment, and went for two months to the seaside. At the end of this period her left eye inflamed (iritis), and the rash, which had been nearly well, relapsed. For the iritis she was treated at Moorfields Hospital by the colleague of Mr. Hutchinson, its cause and origin being suspected, but not followed out. It was several months after her admission to the hospital that she came under the author's care for a complaint having no connection with the syphilis. She was vaccinated from a baby's arm, and, at the same time, her two grown-up daughters. A number of others had previously been vaccinated from the same child, but these have not been traced. The two daughters, however, appear to have escaped all contamination. The baby is said by the vaccinator and its own mother to have looked quite well at the time. As soon as dentition began, however, it had some very troublesome sores about the anus (? condylomata), for which it was under treatment three months at a dispensary. It is the third child. All are living. The eldest, a boy about six or seven years old, shows no signs of inherited taint; the second, a girl of five, now has a large forehead, and she had exactly the same sores about the anus and at the same age as the vacciner; the vacciner itself also now has a large forehead. The author calls attention to the fact that these two cases of vaccination-syphilis were not, as were the first and second series, sent to him because he was known to be interested in the subject, both of them having occurred in the ordinary course of practice. Several cases of supposed syphilis from this cause have been sent to him, but the diagnosis in these was not confirmed.

Conclusions and general remarks based on the four series of cases.—These are summed up chiefly as answers to certain questions. The author first asks: What are we to infer from the circumstances that when syphilis is conveyed in the practice of vaccination it does not affect all those vaccinated from the tainted source? And he answers: We must believe that the specific poison of syphilis is either not contained in the vaccine lymph at all, or is not equally diffused through it. Thus, in the first series of cases, two out of twelve vaccinated escaped syphilis; in the second series, out of about twenty-six vaccinated more than half escaped; while in the third and fourth series only one

out of at least twelve vaccinated from each vaccinifer is known to have been syphylized. It will be borne in mind, however, that the last two series have purposely not been followed up exhaustively, and that the proportion tainted with syphilis is not improbably greater than appears at present. Again, from the evidence of these series of cases there is no doubt that we may vaccinate from a tainted vaccinifer without conveying syphilis; and, on the other hand, it is possible to convey syphilis either with or without the production of a normal vaccine vesicle. Vaccination from a child evidently syphilitic is known to have been done inadvertently several times without bad result, and probably it has often occurred without being known. These points of clinical evidence make it highly probable that the syphilitic virus is not contained in the vaccine virus, but is derived from, or associated with, some cell-elements of the blood, and probably these need not be visibly red. This is confirmed by experimental evidence, for syphilis has been successfully produced by inoculating the blood of a patient in the secondary stage; and in the case referred to the dates, etc., agree closely with those observed in the author's series. Next, need blood be used in vaccination in order to convey syphilis? The author thinks that probably it is enough if the material used has been mixed with colorless exudation from the blood, as occurs when the vaccine vesicle is allowed to drain in order to furnish more lymph. This is confirmed by the fact that the vaccinators in the cases in question asserted that they always scrupulously avoided making the vesicle bleed; in none of the instances is there any history that the lymph was visibly bloody; while it is well known that many men of large experience do allow the vaccine vesicle to weep. According to this supposition, as soon as the first contents of the vesicle are exhausted the risk begins. Third: If the syphilitic virus and the vaccine virus be implanted at one and the same time, what will be the course of events? If the patient is susceptible of vaccination the vesicle goes through its usual phases and heals, and nothing more happens till the end of the month, when the scar indurates and the chancre forms. In some cases, however, the vaccination sore never heals, and in these the scab somewhat obscures the characters of the chancre. Characters of the vaccination-chancre: It begins as a little, red, firm, glossy tubercle, which gradually increases in size and becomes harder. In about a fortnight it usually ulcerates, the sore giving off but very little discharge, and with a hard base and edges. If no mercury is given it may remain open several months; in one case it probably became almost phagedænic. Sometimes there is from the first a good deal of inflammatory effusion at the base of the sore, and much purulent secretion and scab on its surface; its specific characters may be thus quite hidden. These cases are generally in children. Treatment of the vaccination-chancre: Mr. Hutchinson feels no doubt that should a vaccination-scar take on the induration characteristic of a chancre, and should the other facts of the case corroborate the suspicion, it is the surgeon's duty without delay to commence the administration of mercury. The influence of mercury in retarding and greatly diminishing the severity of the primary and secondary symptoms was most marked in all those cases which came under care at an early period (sixth week), as in the first series. Indeed, in this series the eruption was so retarded as to induce scepticism in not a few minds as to the correctness of the diagnosis; several of them, however, from five to seven months after vaccination, had undoubted, though mild, secondary symptoms. In the second and remaining series of cases, however, the disease was not discovered until much later, and most of them suffered very severely from secondary symptoms, the last two cases (third and fourth series) particularly so. As regards tertiary symptoms, it is yet too early to say anything concerning the primary and secondary symptoms. Mr. Hutchinson says: "I cannot speak too strongly as to the vast apparent advantage of the mercurial plan. The lesson of the cases is very clearly opposed to the too prevalent modern doctrine that it is well to wait for secondary symptoms before commencing specific treatment, and would appear to indicate that the latter should be adopted as soon as ever the condition of the chancre permits of an accurate diagnosis." As regards *prevention*, Mr. Hutchinson thinks it of the first importance to diffuse the knowledge that vaccination-syphilis is possible widely

amongst the Profession; until all medical men believe in it, and fear it, we shall still be very unsafe. It is important next to avoid vaccinating from children whose parents are not known to the vaccinator; and, further, to decline, for the most part, using all first-born children, waiting until by the development of one healthy child a guarantee of freedom from taint on the part of the parents has been given. Lastly, the avoidance of blood-stained lymph and of recent exudation from the walls of the vesicle is a sufficiently obvious precaution, and needs no further mention.

ART. 150.—*Treatment of Syphilis by Hypodermic Injections of Calomel.*

By Drs. PIROCHI and PORLEZZA.

(*Giornale Italiano delle Malattie Veneree*; and *The Lancet*, Nov. 23, 1872.)

The authors have recorded fifty-five cases in which they made use of calomel in subcutaneous injections, and they thus sum up the conclusions to which they have arrived: 1. Recurrence of the disease is less frequent with subcutaneous than with internal treatment. 2. Calomel is preferable to the sublimate and other salts of mercury which have been tried until now, on account of the less gravity and frequency of local and general accidents. 3. Injections with calomel should be performed on the external and central surface of the arm. 4. The syringe should be introduced with precision into the subcutaneous cellular tissue, and care should be taken that the point be not fixed into the thickness of the derm. 5. The best vehicle for the calomel is hydrate of gum-arabic. 6. The quantity of calomel used must vary between ten and twenty centigrammes (about two to four grains). 7. Painting with collodion is very effective. 8. There should be an interval of at least ten days between every two injections. 9. The injections should be discontinued if the first two produce little or no amendment.

ART. 451.—*New Treatment of Venereal Diseases and of Ulcerative Syphilitic Affections by Iodoform.*

Translated from the French of Dr. A. A. IZARD, by HOWARD F. DAMON, M.D.

(Small 8vo., pp. 73. Boston, 1872.)

The following are the author's conclusions:—

"1st. That iodoform is a therapeutic agent producing more certainly and more promptly than all the others ordinarily employed the cicatrization of ulcerative syphilides in general, under whatever form they present themselves.

"2d. That in the treatment of soft chancre, iodoform is in some sort a specific by the promptness with which it produces cicatrization without pain.

"3d. That in the treatment of simple or virulent buboes (non-syphilitic), iodoform can be employed in the form of an ointment, as a resolvent, during the early stage, with more success than the blister and tincture of iodine; during the period which succeeds to the opening of the bubo, no other medicament can be compared with it for the rapidity with which it brings about the cure.

"4th. In all the preceding cases, when the suppuration is abundant, it is preferable to commence the treatment by the solution of iodoform in glycerine and alcohol; iodoform in powder ought to be employed in the second place.

"5th. Iodoform acts not only as a topical agent, but still further as a local anæsthetic. The rapid cicatrization which takes place is due, 1st, to the simplicity of the dressing which does not irritate the diseased parts; 2d, to the absorption of the secretions by the iodoform powder; 3d, to the antiseptic properties of the medicament, above all, when it is dissolved in alcohol and

glycerine; 4th, to the presence of iodine which acts favorably on all venereal ulcerations in general.

"6th. Iodoform appears to us to be completely incapable of arresting the progress of phagedænisism.

"7th. The employment of iodoform in cases of syphilitic affections should never dispense with internal treatment."

ART. 152.—*On Precocious Syphilitic Affections of the Osseous System.*

By Dr. CH. MAURIAC.

(*Gazette des Hôpitaux*, 1872; *Annales de Dermatologie et de Syphiligraphie*, No. 2, Tome iv.)

1. Epicranial periostites constitute one of the primary manifestations of syphilis. They sometimes come on in a few days after the infecting chancre, and before the appearance of the secondary symptoms.

2. They seem to be seated exclusively in the cranial periosteum, and, if there exists a hyperæmic or inflammatory lesion of osseous tissue, this latter is accessory and remains subordinate to the periostitis.

3. The epicranial periostites proceed from a true inflammatory condition and are due to active irritation, as is indicated by the acuteness of the symptoms and by their rapid course.

4. In the adult subject of acquired syphilis, these kinds of tumors of the periosteum have a tendency to resolution, either spontaneous or caused by appropriate treatment. They then disappear rapidly and leave no traces.

5. In the infantile subjects of hereditary syphilis the process of the pericranial tumor does not take or quit rapidly the irritative and resolvent for the nebrobiotic and suppurative course.

6. Pericranial periostites are the seats of fixed pains and the starting-points of radiating pains of a neuralgic form.

7. The periostites may be discrete or confluent, and occupy principally the anterior half of the cranium. When left to themselves, they last for a period varying between four and six months. Under an appropriate treatment they disappear sooner.

8. In the commencing stages of general syphilis periostites may form on the ribs, the costal cartilages, and the sternum.

9. The sterno-chondro-costal, like the pericranial periostites, are inflammatory, and may become the seats of fixed pains and the starting-points of radiating neuralgic pains.

10. As the centres of pain the former periostites play a considerable part in the dyspnœa of the early phases of syphilis. This kind of syphilitic asthma may, however, have other causes.

11. Periostites and exostoses may be developed at other points of the osseous system in the early stages of constitutional infection.

12. In taking as the starting-point of the incubation of these osseous lesions the commencement of the infecting chancre, I found that the shortest period of incubation was 15 days, and the longest period 120 days.

13. These periostites may make their appearance several days before the appearance of the so-called secondary cutaneous and mucous affections; they occur spontaneously and independently of the influence of any exciting cause.

14. They would seem to proceed from a kind of syphilis in which the part played by the virus is less active than that of the individual.

15. The tibia is the most frequent seat of periostites.

16. These precocious osseous lesions are more common and more severe in hereditary than in acquired syphilis, and among the African Arabs and the inhabitants of South America than in our climates.

17. The precocious periostites in acquired syphilis are almost always resolvent, and manifest themselves in a more or less marked inflammatory form. The process of periostites of the limbs is generally less irritative than that of pericranial periostoses.

18. They may get well spontaneously; but they disappeared more rapidly under the influence of a combined treatment with mercury and iodides, and of local antiphlogistic applications.

19. They aggravate the prognosis of syphilis, although they may co-exist with slight manifestations in other organs, and may not be complicated by any malignity in the local processes or in the tendencies of the constitutional malady.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 153.—*Treatment of Lesions of the Scalp.*

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery; a Manual.* London: 1872.)

Under all circumstances and conditions scalp wounds should be carefully cleaned with tepid water, the utmost gentleness being used; their edges may then be adjusted and maintained in position, when not extensive, by strips of plaster, but in extensive lacerations sutures are far preferable to any other form of practice. The hair should be cut off in the neighborhood of the wound, and the head kept cool. One caution, however, must be observed in the application of the suture, and that is not to include the aponeurosis of the occipitofrontalis muscle, for there is more danger of setting up mischief in the cellular tissue beneath this tendon when this practice is adopted than when the sutures simply pass through the skin itself. The kind of suture is unimportant, although many surgeons prefer the metallic. All sutures should be removed on the second day, as wounds of the scalp heal rapidly.

ART. 154.—*Two Cases of Compound Depressed Fracture of Vault of Cranium, Treated, in the Absence of Grave Symptoms, without Operation.*

Under the care of Mr. W. JOHNSON SMITH, at the Seamen's Hospital, Greenwich.

(*The Lancet*, February 1.)

CASE 1.—Alfred T., aged eight years, was admitted into the hospital on August 8th, 1872, shortly after a fall from a height of about ten feet. He had lost much blood before admission, and was in a state of combined shock and concussion, but could be readily roused. Over the inner portion of the right parietal bone, and near the coronal suture, was a large, irregularly-shaped wound of the scalp, with jagged edges, which were widely separate, and exposing a considerable portion of bare bone and a well-marked depressed fracture, running from behind forwards and inwards. At the upper portion of the left temporal region, and extending horizontally from before backwards, was a deep wound, which, however, at no part of its extent involved the whole thickness of the scalp. At the time of admission there was slight ecchymosis of upper eyelid on right side. This increased very much in the course of two hours, and completely closed the eye; no subconjunctival hemorrhage on this side. In the course of the night the patient became quite sensible, but was restless and very irritable. Vomited about two hours after admission, and again early on the following morning. The wound on the left side was closed by sutures, and wet compresses were applied over both wounds and across the forehead.

August 9th.—Was quite sensible during the whole of the day, but still remained very restless, frequently turning from side to side, and keeping all the limbs flexed. No return of vomiting. Temperature 99° F.; pulse, 112.

The patient then progressed very favorably, and without presenting any symptoms of cerebral mischief. The superficial wound on the left side speedily closed; but in that on the right side, which was associated with the fracture, there was at first much suppuration, which diminished in the course of a week, but did not entirely cease until the second week in September, when a large granulating surface had closed by cicatrization, and the bare bone about the line of fracture had been detached by exfoliation, and removed in numerous small pieces. On Sept. 12th, when the wound was almost completely closed, the boy had a sharp attack of erysipelas of the face and scalp, but after this had passed off he rapidly improved, and on October 5th was discharged as cured, both wounds being quite closed, the situation of that on the right side being marked by a large, dense, and depressed cicatrix. The boy has frequently attended as an out-patient, according to instructions, but up to the present time (January 8th) has shown no bad symptoms either of a general or local character.

CASE 2.—William R., aged thirty-two, a muscular and apparently healthy sailor, was admitted on November 6, 1872, with injuries to head and left shoulder, received three days previously, when he had been thrown down on deck by a heavy sea, his head coming in contact with a large iron bolt. The injury to the shoulder, though merely a contusion accompanied with pain over the deltoid and partial loss of power in this muscle, was the chief cause of the patient's application for admission, and very little attention seemed to have been paid by him to a large wound on the left side of the head, which was covered by a thick layer of coagulated blood, on the removal of which the following condition was presented: On the left side of cranium, three inches and three-quarters above the left pinna, was a scalp wound extending directly from before backwards for a distance of two inches and a half. The edges had retracted considerably, and were inverted; the whole thickness of the scalp had been involved, and at the bottom of the wound was a considerable extent of bone, white and perfectly bare. This exposed portion of bone was found to be depressed to the extent of about one-quarter of an inch below the surface of a jagged margin of bone, which extended from above downwards at the anterior extremity of the scalp wound, the line of fracture curving downwards and backwards under the lower flap of the wound, and making its appearance again as a slight fissure near the posterior extremity of the wound. The depressed and bare portion of the bone was also marked at the middle by a simple depression of the outer table, resembling in size and form an impression made on soft material by the bowl of a teaspoon. The fractured portions were firmly fixed, and no mobility could be made out on pressure with a director. The patient stated that he had not suffered from headache since the day of the accident, that he had not had any vomiting, and that his health had not been disturbed.

The patient was ordered to keep to his bed and to take low diet. Water dressing was applied to the wound, and the portions of scalp immediately around the edges were shaved. The raw surfaces, which at first were dry and showed no tendency to healthy reaction, speedily improved in appearance, and became covered by rapidly cicatrizing granulations. The wound speedily contracted; and, after the removal of three large portions of necrosed bone on December 9th, closed completely. He was allowed to get up on December 12th; and on the 30th day of the month was discharged as cured.

During the whole period that the patient was in the hospital no bad subjective symptom of any kind was noticed. He frequently complained of being kept in bed for what he regarded as a trivial injury. The temperature was never higher than $99^{\circ}.4$, and on four days only was above 99° . The pulse, taken while the patient was lying down, varied between 72 and 88. During the first week of the patient's stay in the hospital there was great difference in the frequency of the pulse in the positions of lying down and sitting up in bed. In the former position it was about 88; in the latter 115. Shortly before his discharge there was a difference only of 16 beats. No change was ever observed in the action and relative condition of the pupils.

ART. 155.—On Deep-Seated Abscess near the Angle of Lower Jaw.

By Dr. VON THADEN, of Altona.

(Mittheilungen f. d. Verein Schleswig-Holsteiner Aerzte, Heft 4, 1872;
Schmidt's Jahrbücher, No. 10, 1872.)

The author relates eighteen cases of a deep-seated lateral inflammation of the neck, to which very many names have from time to time been given. By Leube and Roser it has been called *cyanche sublingualis*; by Stromeyer, *fibrinous diffuse phlegmon near the lower jaw*; by Metzler, *sporadic gangrene of the cervical cellular tissue*; by Bamberger, *inflammation of the cervical cellular tissue*; by Emmert, *deep diffuse inflammation of the cervical tissues*; by Nélaton, *deep-seated phlegmon of the tibial cervical regions*; by Breithaupt, *cervical abscess behind the angle of the lower jaw*. These authors describe the symptoms of the affection with much unanimity, and recognize as the seat of inflammatory process, the deep intermuscular cellular tissue. Very slight, if any, mention, however, is made of the lymph-glands, which are found in considerable numbers and of large size in this region.

Dr. Von Thaden regards the large group of lymph-glands which exists near the angle of the lower jaw as the chief centre of the inflammation, and holds that an early and deep incision into this is free from danger. His views are based upon eighteen cases which were observed by him in the course of eleven years.

Symptoms and Course.—There appears near one angle of the lower jaw a swelling of the size of a hen's egg, the integument over this tumor remaining almost quite normal. If movable over the angle of the jaw, it remains so only for a short time; it is hard, and its boundaries may be either well defined or slightly indistinct. This swelling may be seated near the submaxillary gland or, as more frequently occurs, further backwards below the parotid gland, and under the upper half of the sterno-mastoid muscle, the anterior margin of which is displaced outwards.

In all the eighteen cases recorded by the author the patients were adults, fifteen being between twenty and forty years of age, and three between forty-seven and sixty-five. Eleven of the patients were males and seven females. In twelve cases the swelling was on the right side, in six cases on the left. Eleven of the cases occurred in the cold season, and seven in the warm season. Generally a previous affection was observed in the posterior half of the mouth on the corresponding side; in eight cases difficulty of swallowing or slight inflammation of the tonsils; in four cases pain in the posterior inferior molar teeth (twice in the wisdom tooth, in one of which cases there was pain in the ear). In one case there was nasal catarrh.

The tumor, which at first is not particularly tender and often devoid of much heat, may remain unnoticed for a few days. It afterwards extends forwards and downwards, and the structures of the submental region and over the thyroid cartilage, and sometimes those between this and the dorsale, become very hard. All the contours of the neck disappear, and a thick swelling is observed extending from the cheek downwards over the neck. The mouth cannot be opened beyond a small extent, as the swelling restricts the range of movement of the lower jaw. The swelling extends into the mouth on the side affected; space between the tongue and the molar teeth is occupied by an œdematous, dark red and soft tumor, and the tongue partially infiltrated and œdematous is elevated on the corresponding side, and cannot be moved without pain. The utterance of consonants in which the root of the tongue takes part can scarcely if at all be effected. The tumor may extend inwards and so give rise to serious symptoms. Pressure on the vessels of the neck accounts for headache and slight unilateral swelling of the face, and pressure on the boundary between the pharynx and œsophagus for the difficulty which sometimes increases to the impossibility of swallowing. There is danger of the disease involving the entrance to the trachea, the epiglottis, and the aryteno-epiglottidean ligaments,

and of the mucous membrane becoming swollen in consequence of the oedema surrounding the purulent centre. This is indicated by hoarseness passing into stridulous breathing. The disquietude on account of the difficulty in breathing, which often increases very much in the evening, generally results in sleeplessness. Convulsive attacks of dyspnoea like those of croup have been recorded by some surgeons, but were not observed in Dr. Von Thaden's cases.

The back of the neck always remains free, the swelling never extending beyond the posterior margin of the sterno-mastoid muscle.

The skin covering the affected parts often retains for a long time its normal color. Oedema and heat come on sooner or later; redness was observed in six cases only. Fluctuation is always indistinct. In four instances the author could feel in the hard tumor, generally between the sterno-mastoid and the thyroid cartilage, a soft spot from half to two centimetres in size, at which in one case a spontaneous opening formed, and the redness of the skin had commenced. Even at this soft spot the purulent deposit is covered by a layer of tissues two centimetres in thickness. In some cases the author gave exit to pus by incision without being able to feel any fluctuation.

The patient having been put under the influence of chloroform, an incision is first made parallel and along the margin of the sterno-mastoid, the course of which must often be conjectured according to the origin and insertion of the muscle; the knife is then carried into the tissues for a depth of two or three centimetres, and a grooved director then thrust in towards the supposed centre of the swelling. Along the groove of this director creamy and inodorous pus will now generally flow; in two of the author's cases it was fetid, and in one fatal case ichorous and watery. The quantity varies much in different cases, after extension of the incision with a blunt-pointed bistoury, the finger is passed into the cavity, generally under the sterno-mastoid and between this muscle and the greater cornu of the hyoid bone, sometimes so deeply that the index finger is wholly covered and comes in contact with the transverse process of the atlas or another of the upper covered vertebrae. This was done in four of the author's cases. The cavity is generally irregular, being composed of several small connected cavities, and traversed by bands. In one case the cavity of the abscess extended from the ramus of the lower jaw to the base of the skull. In two cases a patch of bare bone of the size of a shilling was found on the inner surface of the body of the lower jaw; in both those cases there had been pain in the corresponding wisdom teeth. The author in his operations was not able to make out with the finger the condition of the lymph-glands, as these had been converted into a semi-fluid material. In one case only did he succeed in removing a brownish-red lymph-gland of the size of an almond, which had been disintegrated in consequence of the effusion of blood and pus among its tissues; it lay between the submaxillary gland and the jaw. The author could feel deep pulsation in these cases, twice on the inner side of the disease, once on the outer side, and it was doubtful whether this could be due to the internal carotid. Why the pulsation of the internal carotid cannot be felt in these operations, the author explains by the fact that this artery is covered on the outer side by the distended internal jugular vein.

The bleeding in the author's cases was generally slight and of no great importance. In one case it was necessary to tie the facial artery.

The incision is generally followed by relief in the symptoms affecting respiration, deglutition, and speech, and by capacity of free movements of the head and tongue; the anxiety and restlessness also abate. In no cases did renewed formation of pus necessitate reopening of the wound. In two cases the patients succumbed.

If the head be kept at rest the wound will generally close at some period between two and eight weeks, generally in six weeks. In two of the author's patients, servant-maids who were careless about themselves, suppuration continued for six months; in one of these cases the swelling returned with dyspnoea and cyanosis.

Subsequent long-continued hardness of the deep-seated tissues near the angle of the jaw was not observed by the author in any of his cases.

Of the eighteen patients two died. One of these was a man, aged fifty-nine

years, who sank from septicæmia within ten days. The second was a tubercular man who had succumbed to erysipelas and pyæmia six weeks after an incision had been made. Dr. Von Thaden believes that death in cases of this kind is sometimes due to suffocation through œdema of the glottis.

Concerning the question whether *bubo* or *phlegmon* be the primary lesion in this affection, Dr. Von Thaden found no information in previous records of post-mortem examinations. To no author did it seem that adenitis at the angle of the jaw was analogous to suppurating buboes in the groin or axilla. Dr. Von Thaden points out that in the region below the *upper extremity of the sterno-mastoid* where the pus is generally formed, there may usually be found a great number of lymph glands. In fourteen subjects of various ages he counted from ten to twenty of these glands on one side, in two subjects more than twenty, and in one subject forty glands. This group of glands, which are called by Henle the *glandulæ cervicales profundæ superiores*, contains more glands than the groups in the arm-pit and groin, though not so large. The glands vary much in size, the largest lying on the internal jugular vein and in the furrows in front of and behind this vessel. The other glands, smaller in size but more numerous, lie further backwards. This group of lymph-glands surrounds the internal jugular vein and forms from without backwards a semi-circle which ceases at the inner or mastoid side where the carotid artery and vagus and sympathetic nerves are found, together with some scanty cellular tissue. In two cases only has the author seen lymph-glands to the inner side of the great vessels, and never more than two, the lymph-glands seated below the upper margin of the thyroid cartilage, and therefore below the bifurcation of the carotid, being excluded in this enumeration. The glands lie between the salivary glands and the lower jaw, and between the sterno-mastoid muscle and the hyoid bone; above they are bounded by the posterior belly of the biverter cervicis; they are generally imbedded in fat, containing cellular tissue; they cannot always be readily prepared for examination, but in consequence of their darkened color and enlargement in smallpox, are very manifest in subjects who have died from this disease. The anterior margin of this group of glands can be readily felt in children in consequence of the laxity of the cellular tissue surrounding their cervical organs, which has not yet become condensed into fasciæ. It is only in adults, that one finds tense sheaths around the sterno-mastoid muscle and the submaxillary gland, and small tendinous bands extending from the fascia of the sterno-mastoid to the angle of the jaw. In adults the platysma too often becomes as thick as the orbicular muscle of the eyelids and even thicker. When therefore inflammation of this group of glands occurs in an adult, the swelling will soon undergo compression by surrounding osseous, muscular, and fibrous structures. Anterior to this group lies one of three or four lymph-glands inclosed within the fasciæ of the submaxillary salivary gland.

The question concerning the *priority of adenitis or phlegmon* cannot be sufficiently and conclusively determined. Peripheral lymph-glands frequently inflame. Adenitis occurs more frequently in the neck than in other parts of the body; and if the different subcutaneous collections of cellular tissue in the human body be arranged with respect to their proneness to inflammation and suppuration, then those which contain lymph-glands will certainly take first rank.

The especial point in deep-seated acute maxillary buboes is the impetuosity of the local phenomena, which is not observed in cases of subcutaneous lymphadenitis; the mobility of the round swelling is altogether wanting or disappears early, the skin covering the swelling reddens late; suppuration occurs early. The red streaks along the skin, which are characteristic of cutaneous lymphangitis, and which connect the affected portion of skin with the swollen gland, are wanting. A pre-existing affection at another spot in the region associated with the lymph gland is common to buboes, with phlegmon it is not constant.

The reason why the excessive swelling of the cervical glands in diphtheria does not cause much disturbance of respiration may lie in the laxity and the yielding nature of the cellular tissue of children, which allows sufficient space for the swollen lymph-glands to extend forwards, and also in the usually short duration of life in cases of this disease.

Hemorrhage from one of the large cervical vessels has not hitherto been observed by any one in cases of the affection. Suppuration of deep-seated cervical lymph-glands has in rare cases caused erosion of a large vessel and a fatal result. Advena saw erosion of a large artery in two children; Bloxam, suppuration of the internal jugular vein, after scarlatina in five children. Castelain has reported seven cases of ulceration of the large cervical vessels; in one of these the internal jugular vein, and in three the carotid artery, were affected.

Treatment.—In the first stage rest in bed, ice, purgatives, cataplasms, etc. On account of the early exhaustion of the patient through want of sleep and failure of the nutritive functions, Dr. Von Thaden is opposed to the practice of repeated leeching, urgently recommended by Stromeyer, after twenty-five years' experience. The author recommends that an incision be made without waiting for fluctuation, and he has no doubt that when one penetrates at the anterior margin of the sterno-mastoid, the whole thickness of the abscess of the swollen lymph-glands lies between the point of the knife and the dreaded large cervical veins. With respect to the proper time for making the incision, one may wait until the speech or respiration is disturbed. Too early incisions do not generally bring about any good result, and never relieve the patient; in cases of phlegmon, on the other hand, every incision is usually advantageous.

ART. 156.—*On Cysts of the Jaws.*

By M. MAGITOT.

(*Archives Générales Médecine*, Avril, 1873.)

1. Spontaneous cysts of the jaws in all instances have their starting-point in the dental system.

2. Almost all the recorded cases are conformable to this explanation.

3. The few rare examples of cysts of the maxillæ which seem to form exceptions to this rule, are given in reports wanting in sufficient detail for establishing the pathology, or reports failing in scientific exactitude.

4. The existence of cystic disease of the maxillæ and of essential nature, having no etiological relation with the dental system, has not hitherto been proved.

5. The development of cysts of the jaws takes place by two different processes:—

(a) The embryonic period, that is to say, within the follicle itself, the proper walls of which form the cystic sac.

(b) In the adult period, below the dental periosteum which covers the fang, this periosteum being elevated and constituting the wall of the cyst.

6. Cysts of the jaws contain, in addition to the liquid or semi-liquid mass with which they are distended, solid material, consisting sometimes of fibrous or fibroid substances (embryo-plastic cysts of the follicle), sometimes of hard bodies, dentinary disks or grains, which may or may not be regularly crowned (odonto-plastic and coronary cysts of the follicle); at other times, finally, a fang denuded and penetrating by its summit into the cystic cavity. The sole exception to this rule relates to certain embryo-plastic follicular cysts in which there had been at the commencement of their formation a breaking down or absorption of the constituent parts of the affected follicle.

7. Cysts of the follicle, resulting from disturbances in the nutrition of the organ, are developed sometimes on the normal place or seat of the primitive follicle (simple follicular cysts), sometimes on some other point of the jaw than the alveolar margin (heterotopic follicular cysts).

8. Cysts of the dental periosteum are always produced around a fang occupying its normal situation. They are never heterotopic.

9. Besides spontaneous follicular or periosteal cysts, one may in the maxillæ meet with cysts developed around a foreign body. These are the perigenic cysts of Broca, or encysted foreign bodies of the jaw.

10. In a very great majority of cases, cysts of the jaws are curable by simple opening of the pouch and by exciting contraction of the cavity.

11. Resection and disarticulation of the maxillæ ought to be reserved for some rare cases in which the very extensive development of a cyst has reduced considerably or destroyed completely the osseous tissue of the affected jaw.

ART. 157.—*On the Prevention and Arrest of Hemorrhage in Operations on the Tongue.*

(Schmidt's Jahrbücher, No. 12, 1872.)

Dr. Lesser (*Deutsche Zeitschrift für Chirurgie*, 6, 1872) gives the following account of Prof. Hueter's operations for tying the lingual artery:—

Hueter searches for the artery internal to and behind the hyo-glossus muscle, by which the vessel is separated from the more superficial lingual vein, and from the hypoglossal nerve. Here there is a triangular space, the lingual trigone, bounded externally by the posterior belly of the digastric muscle, internally by the outer free margin of the mylo-hyoid muscle, and above by the hypoglossal nerve; at the bottom of this triangle may be seen the hypoglossus muscle, the fibres of which run from without and below, inwards and upwards, crossing those of the mylo-hyoid. Over the triangle lies the facial artery. In the operation the surgeon cuts through the skin and the platysma myoides at the upper margin of the greater cornu of the hyoid bone, commencing over the insertion of this cornu into the body of the bone, and carrying his incision outwards for three or four centimetres. The lower margin of the submaxillary gland, lying in its covering of connective-tissue, is now exposed; this gland having been drawn upwards and some layers of connective-tissue divided, the lingual trigone with the hypoglossal nerve is exposed. This nerve and also the lingual vein having been drawn upwards as well as possible, the hyo-glossus muscle is divided by forceps in the course of the fibres. The artery is then exposed and can be readily ligatured. It is necessary for the head of the patient to be held backwards during the operation, and for the chin to be turned from the operator.

This method of operating was practised in the following cases:—

1. As a preliminary proceeding before extirpation of a canceroid growth from the right side of the tongue. During the operation not a drop of blood flowed from the cut surface of the tongue. On the fourteenth day the patient, who was almost completely cured, was discharged from the hospital.

2. On account of lymphangiectasis of the right side of tongue. Here the operation was performed in order, as in elephantiasis of one of the lower extremities, to lessen the pressure of the lymph current, and the dilatation of the lymph vessels by deligation of the chief arterial trunk. At the end of a fortnight the wound was healed and the right half of the tongue had considerably collapsed, but it remained somewhat larger than the left half.

3. As a preliminary proceeding in extirpation of an epithelial growth of the right half of the tongue. During the removal of the disease there was very little hemorrhage, and this was chiefly venous. The patient was discharged cured on the fourteenth day.

4. As a preliminary proceeding in extirpation of an epithelial growth of the whole of the right half of the tongue, which involved the attachment of the right glosso-palatine arch, and spread from this to the floor of the oral cavity and the gums of the right molar teeth. On the stump of the extirpated half of the tongue there were two small bleeding arteries, but the hemorrhage from these was arrested by the application of ice and liquor ferri.

Professor Schmidt, of Leipsic (*Archiv für Heilkunde*, ix. p. 391), reports the following cases in which the lingual artery was tied preliminary to extirpation of the anterior half of the tongue:—

There was a large crater-shaped ulcer at the apex and much thickening of the epithelium of the whole of the anterior portion of the tongue. The tongue having been dragged forwards with hooked forceps, at a distance of one centi-

metre from the posterior boundary of the disease the tongue was traversed by two loops of thread, which were applied for the purpose of keeping the organ under control, and of bringing together the raw surfaces after the operation. By means of the hooked forceps the tongue was dragged forcibly upwards, so that its lower surface and the region of the frenum were accessible. At the lower surface of the tongue, immediately above the caruncula sublingualis, and at a distance of one centimetre and a half from the middle line on the left side, a curved needle armed with a stout thread was thrust into the tongue and towards its right margin, near which, and at a distance of one centimetre and a half from the frenum, it was made to protrude. The soft parts included in this loop were then drawn together and the ligature tied in a knot. After the excision it was found that the surfaces of the wound could not be applied to one another, so a large raw surface was left to heal by granulation. No open and bleeding vessels could be seen after the removal of the diseased portion of the tongue; in the evening the saliva was free from blood stains, and white. On the twelfth day the thread was divided and removed. The patient complained of great difficulty in deglutition after the operation. This symptom disappeared after the removal of the ligature.

ART. 158.—*Notes of a Case of Malignant Tumor in the Parotid Region.*

By HENRY ARNOTT, F.R.C.S.

(*British Medical Journal*, March 8.)

At a meeting of the Clinical Society of London, February 14th, Mr. Henry Arnott read the notes of a case of soft malignant tumor in the parotid region of a man, aged thirty-five, cured by caustics. The patient had first come under his notice nearly five years ago, with a soft infiltrating brain-like tumor bulging from the neck below the left ear. Repeated severe hemorrhage had brought the man into a state of great peril. He was admitted into the Middlesex Hospital; the common carotid artery was tied, and Mr. Moore commenced to destroy the fungating mass with chloride of zinc paste. The treatment was continued from time to time for more than twelve months, Mr. Hulke finishing the case after Mr. Moore's death. The man finally left the hospital with a sound cicatrix, and there has been no return of the disease since. Mr. Arnott introduced the patient to the meeting. He was a wiry, small man, working hard all day as a stableman; and, by his own statement, no longer feeling anything of the painful mass, which seemed likely to kill him speedily five years ago. Mr. Arnott directed special attention to the encouragement afforded by such a case as this to those surgeons who are disinclined to attempt other treatment than clean incision in cases of cancer, and dwelt upon the importance of repeated attacks upon returning nodules of the disease. He also pointed out that the cachectic look—once very marked in this case—had completely disappeared with the relief of the local ailment.

ART. 159.—*Notes of Two Cases of Thyrotomy.*

By PUGIN THORNTON.

(*British Medical Journal*, March 8.)

At a meeting of the Clinical Society of London, February 14th, Mr. Pugin Thornton read a paper on two cases of thyrotomy for the removal of growths from the larynx. The first case was that of a man, aged twenty-four, a wool-stapler at Halifax, whose voice, in December, 1868, became slightly hoarse, and in the following month aphonic. Three years later he came under Dr. Morell Mackenzie's care, and at that time his voice was almost suppressed and his breathing affected. With the laryngoscope, great thickening of the left ary-epiglottic fold, and slight ulceration of the left ventricular band, were seen. The lungs were perfectly healthy. In the beginning of 1872, Dr. Mackenzie

found the whole of the larynx covered with large vegetations. He was wearing a tracheal canula; tracheotomy having been performed six months previously by Mr. Charles Smith, of Halifax, on account of suffocative dyspnoea. He was now admitted into the Hospital for Disease of the Throat, and thyrotomy was performed by Mr. Thornton. Growths were found attached to all parts of the laryngeal mucous membrane, which were removed with cutting forceps, and nitrate of silver applied to their bases. The left ary-epiglottic fold was seen to be much thickened. The canula was not returned until the second day after the operation, when it had to be replaced in the trachea, on account of the difficulty of breathing. Microscopical examination of the growths showed them to be of an epitheliomatous character. Six weeks after the operation, dysphagia came on; and two months later, on examining the patient, the left arytenoid cartilage was observed to be displaced, and it was evident that perichondritis had taken place. From this time the difficulty in swallowing rapidly increased; and from the end of October to the time of his death (Dec. 14th), he had to be fed through the œsophageal bougie. No post-mortem examination was allowed.

The second case was that of a boy, two years and a half old, admitted into the Throat Hospital under the care of Dr. Semple on June 11th, 1872, suffering from stridulous breathing, and there was some lividity of face. It was said that from his birth his cry had been weaker and harsher than that of other children; and that when two years old he had had "a severe attack of croup," after which his voice was much harsher, and his breathing slightly stridulous. At the time of his admission his respiration was so oppressed that he could not walk across the room, and it was difficult for him to get any sleep at night. Dr. Semple discovered with the laryngoscope a number of small warty growths on both vocal cords. Five days after the child's admission, the dyspnoea having become suddenly severe, Mr. Thornton performed tracheotomy; and two days later, at Dr. Semple's request, having removed the canula, he carried the incision up through the cricoid and thyroid cartilages. The divided portions of the cartilages and the trachea being held back, several warty excrescences were found. On each vocal cord there were also two small growths on the mucous membrane below the right vocal cord. These were removed, as in Case 1, and the parts brought together with silver sutures, the tracheal canula not being replaced. The child passed a good night, and slept with his head low. A month after the operation his voice was tried and found harsh and feeble; his breathing was normal. He was soon afterwards made an out-patient. On December 13th, however, his breathing became slightly stridulous; and on January 10th, tracheotomy had to be performed for the second time. Mr. Thornton remarked that there was no doubt that recurrence of the growths had taken place in this case, although, from the child being frightened from previous operative measure, it was impossible to make a laryngoscopic examination. He also remarked upon the difficulty of effecting complete removal by thyrotomy. The author observed that he should not be prepared to recommend the operation in a case similar to the first, which was one undoubtedly of cancer. In this instance it was undertaken on account of the aphonia making it impossible for the patient to gain his livelihood. In speaking of the second case the author thought the operation appeared more justifiable, the tender age of the patient having rendered laryngoscopic treatment impossible: nevertheless, as in the cases of Dr. Gouley, Dr. Voss, and Mr. Davies-Colley, recurrences had taken place.

ART. 160.—*Observations on Diffuse Inflammation of the Areolar Tissue of the Neck (Cellulitis).*

By HENRY GRAY CROLY, F.R.C.S.I., Surgeon to the City of Dublin Hospital.

(*Dublin Journal of Medical Science*, May 1.)

Several urgent cases of this nature having been under Mr. Crolly's care during the last few years, he feels considerable interest in the subject, and deems it of

sufficient moment to claim the particular notice of the profession ; and, considering the vital importance of the various structures implicated in deep-seated inflammation of the neck—viz., the contents of the submaxillary region, the base of the tongue, the larynx and trachea, œsophagus, great vessels and nerves, the affection has not, in the author's judgment, received that amount of *special* attention by surgical writers which it imperatively demands. The symptoms are urgent and alarming, and if relief be not afforded by prompt and bold surgical aid, the patient may be suffocated ; and even under the best surgical skill, the complication of blood-poisoning and its fatal effects unhappily frustrate the best-directed efforts of the surgeon. This serious affection occurs as the result of exposure to wet and cold, or from some obscure and constitutional cause, such as occasions erysipelas and other zymotic diseases at special seasons. The attack is ushered in by rigors, lassitude, headache, thirst, and other symptoms of fever, pain in the neck, and loss of sleep. The parts engaged soon become swollen and tense, conveying to the touch the sensation termed "brawny," indicating infiltration of fluids into the underlying areolar tissue and inter-muscular spaces. There is pitting on pressure, especially in the mesial line, over the larynx and trachea (*without fluctuation*) ; dyspnœa and dysphagia next become urgent symptoms, increasing much the sufferings of the patient, and foreboding danger. The breathing is stridulous, the voice whispering, and the countenance assumes a very anxious expression, the forehead being wet from drops of cold sweat. The patient feels much exhausted, dreads choking, and, from being unable for several days to swallow solid food, or even fluids (the latter regurgitating through the nose), soon loses strength, and danger to life becomes imminent. The platysma muscle, in its cellular sheath, with the layers and reflections of the cervical fascia, bind down, with much tension and mechanical resistance, the subjacent infiltrated and swollen tissues, and consequently exert painful compression on the root of the tongue, the larynx and trachea, œsophagus, vessels, and nerves.

ART. 161.—*Fracture of the Trachea.*

By EDWARD DRUMMOND, M.D.

(*British Medical Journal*, December 28, 1872.)

The singularity of the following accident induces Dr. Drummond to report it. He was sent for to a middle-aged woman, who, while hanging out some clothes, slipped off the chair on which she was standing, and fell forwards against its back, from which the top rail was missing. She fell forcibly, and struck the trachea against a sharp upright spindle. Dr. Drummond found considerable contusion of the surrounding parts, and an abrasion over the trachea. The cartilaginous rings were crushed ; there were slight expectoration of blood and extreme general emphysema. A large compress of cotton-wool was applied over the part, and retained *in situ* by straps of plaster. She made a good recovery in about ten days.

ART. 162.—*Report of a Case of Tracheotomy Performed twice on the same subject.*

By WILLIAM STOKES, Surgeon to the Richmond Hospital.

(*Dublin Journal of Medical Science*, December, 1872.)

As Mr. Stokes is not aware of any case in which the difficult and hazardous operation of tracheotomy performed *twice* on the same subject has been recorded, the particulars of the following one must, doubtless, be considered of much surgical interest.

"Bridget H., aged thirty, was admitted into the Richmond Hospital under my care on January 16, 1871. The patient contracted syphilis about eight years ago. Constitutional symptoms followed the attack, and the larynx became

affected. About fifteen months previous to her admission she suffered from an acute attack of laryngitis, for which she was treated by Mr. Fleming. She was brought under the influence of mercury, which temporarily relieved her, but subsequently the dyspnœa became so excessive that tracheotomy had to be performed. After the operation the case progressed very well; the tube was removed, the wound healed, and the patient eventually left the hospital quite free from all laryngeal distress. For nearly twelve months after this operation the patient enjoyed tolerably good health, but about six weeks before her second admission into hospital she began to be affected as before. Her breathing became difficult, her voice hoarse, and she suffered also from persistent cough. On admission her symptoms were very urgent: she had constant dyspnœa with orthopnœa, stridulous and harsh respiration, troublesome cough, extreme pain referred to the larynx, hoarseness, dysphagia, great anxiety of countenance, and considerable constitutional disturbance. These symptoms increased at night, when violent paroxysms of dyspnœa frequently occurred. The symptoms were so very urgent that a laryngoscopic examination was not considered feasible. On January 20th I determined that the performance of a second tracheotomy was the only course open in order to save the patient's life. I accordingly performed the operation. I had very great difficulty in introducing the tube, owing to the violent paroxysms of dyspnœa (one of which was very nearly proving fatal), the struggles of the patient, the great depth and mobility of the trachea, its great contraction, a condition probably resulting from the first tracheotomy, and the copious venous hemorrhage. These difficulties, however, were overcome, chiefly owing to the employment of Von Langenbeck's double tracheotomy hook, an instrument which is as simple as it is ingenious in its construction, and the tube was introduced. This was followed by immediate relief. The respiration continued during the day quite quiet. Occasionally the inner tube became clogged with mucus, which was easily removed with a feather brush. On January 27th, the double tube was removed, and Thompson's bivalve trachea tube substituted; the patient being free from all distress, the breathing quite regular, the pulse quiet, and the appetite good. On February 8th the patient left the hospital, still wearing the tube, since which date she has frequently presented herself for examination as an extern patient."

From Mr. Stokes's experience in this and other cases, he can confidently recommend the double tracheotomy hook of Von Langenbeck, as a thoroughly practical and useful instrument.

ART. 163.—*On Laryngotomy, Thyrotomy, and Tracheotomy.*

By F. W. HAMILTON, M.D., Professor of the Practice of Surgery, Bellevue Hospital Medical College.

(*Principles and Practice of Surgery.* Pp. 943. New York. 1872.)

Laryngotomy, practised at the crico-thyroid space, is preferable in all cases of apnœa from drowning, from the inhalation of mephitic gas, hanging, œdema glottidis, abscess, and ulcerations of the larynx, in most cases of intra-laryngeal growths, and whenever foreign bodies are lodged in the ventricles.

Thyrotomy, with or without incision of the crico-thyroid ligament, may be substituted for laryngotomy, so-called, in certain cases of intra-laryngeal growths, when, in the opinion of the surgeon, it would be difficult to remove these formations safely and thoroughly without having at the moment a perfect view of their attachments.

Tracheotomy above the isthmus of the thyroid gland is to be preferred in all cases of diphtheria and of croup, when the gland is not in a condition of hypertrophy. Tracheotomy below the isthmus will be reserved, therefore, for those rare examples of diphtheria or croup accompanied with hypertrophy of the thyroid gland, and for those equally rare examples in which the surgeon undertakes the removal of foreign bodies impacted in either the right or left bronchus.

ART. 164.—*Conjunctival Transplantation for the Cure of Symblepharon.*

By J. R. WOLFE, M.D., Surgeon to the Glasgow Ophthalmic Institution.

(Glasgow Medical Journal, February.)

The palpebral and ocular conjunctiva are sometimes destroyed by burns, or the action of chemical substances, etc., resulting in adhesion of the eyelid to the eyeball. It is often difficult to permanently separate this adhesion so as to allow of the free motion of the lid over the ball. Dr. Wolfe states that for the last few years he has practised a plastic operation of the conjunctiva for the radical cure of this morbid condition.

"I take," he says, "a portion of the neighboring healthy conjunctiva of the eyeball, wherever I can get it, to supply the palpebral conjunctiva which has been destroyed. For experience has taught me, that loss of conjunctiva oculi, even to a very large extent, is generally regenerated without prejudice to the neighboring tissues, whilst loss of the conjunctiva of the eyelid is followed by such disastrous results as pannus, ulcerated cornea, etc. etc."

In one case which he relates, he observes, "I dissected carefully the eyelid from the eyeball, separating it as far as the cul-de-sac, to make quite sure that I had liberated the eyeball completely. I then passed two fine silk threads through each side of the conjunctiva at the outer aspect, which ligatures marked the breadth of the conjunctival flap to be removed. These two I put on the stretch, and with a pair of scissors I first cut horizontally, and then on each side of the ligatures, then putting the scissors behind, I cut it from the eyeball. In cutting the flap on the stretch by means of the ligatures, I take care that the conjunctival flap is removed without any of the sub-conjunctival tissue. The same process is followed at the inner side, and these two flaps are brought together in the middle line, and secured with stitches."

The operation proved successful, there resulting free movement of the eyeball with scarcely any perceptible trace on the latter where the flaps were borrowed.

"There is a limit," he admits, "to the extent to which we may go in borrowing conjunctival substance from an eye which has already been injured. If we surpass that limit, the corneal opacity is sure to extend still further, and we lose the last chance of saving vision. Indeed, we sometimes meet with cases in which the infliction of a new wound amounts to the destruction of the eye." He therefore, in a case of very extensive symblepharon, tried to supply his patient with conjunctival substance from a rabbit. Accordingly, he operated, Nov. 3d, 1872, in the following manner: "Both patient and rabbit being put under chloroform, I separated the adhesions, so that the eyeball could move in every direction, and, everting the lower eyelid and turning it downwards, I took from the rabbit that portion of the conjunctiva which lines the inner angle, covering the *membrana nictitans*, and extends as far as the cornea, the portion to be removed having been previously defined by four fine silk threads, which enabled me at the same time to transfer it quickly to replace the lost conjunctiva palpebræ of the patient, in which place it was secured with stitches."

On Nov. 7th the ligatures were removed. "Patient remained in the hospital for a week, during which time he was carefully noted by me, my assistant, and students. The eyelid remained separated through its whole extent, the eyeball movable in every direction, while the transplanted palpebral conjunctiva retained its vitality, as shown by its red appearance and comparatively smooth surface. There was only one gray spot, the size of a pin's head, visible. Was dismissed on the 11th Nov. He returned three days ago, last Tuesday, Dec. 3d. The eye was found in a satisfactory condition. The conjunctiva has a healthy look, the free motion of the eyeball maintained, which enabled me at once to make an artificial pupil."

Dr. Wolfe has operated with success on another patient, whose case, however, was not so aggravated as the first.

ART. 165.—*Treatment of Strumous Ophthalmia.*

By HENRY POWER, F.R.C.S., M.B., Lond., Senior Ophthalmic Surgeon to St. Bartholomew's Hospital.

(*Practitioner*, October, 1872.)

Mr. Power finds that general treatment is by no means sufficient to cure the patient, and amongst the many local remedies he has used, he gives the palm to atropia, in a two or four grain solution, Pagenstecher's yellow ointment, and calomel. With one or the other of these, most cases, he says, may be cured.

"Cases, however, occasionally occur in which all these plans of treatment fail, and the question comes, what must now be tried? It is then that I claim attention to the value of extract of belladonna given internally. I have repeatedly found that it rapidly diminishes the intolerance of light, and by its power of relieving the spasm of the muscles closing the lids, enables the child to obtain an amount of benefit from air and exercise that was previously impossible. I can entertain no doubt that its good effects are attributable to its action as a stimulant upon the sympathetic system of nerves, and through this upon the smaller vessels. It is further of use in doing away with the necessity for purgatives, as even in small quantities it acts efficiently in clearing the bowels. I have usually prescribed it in doses of one-eighth to one-quarter of a grain. It is perhaps scarcely necessary to add that, as it is a potent remedy, its effects must be watched, and its administration should be suspended as soon as the child complains of thirst, or when the rapidity of the pulse is observed to be increasing. I have only noticed these symptoms in one or two instances. I have also found the extract of belladonna serviceable in cases where the affection was rather a limited keratitis than phlyctenular ophthalmia; that is, in which a small segment of the cornea was hazy and vascular near the margin, even though the intolerance of light may not have been very intense. I consider the seton, though recommended by so good an authority as Mr. Bader, a *pis aller*; and find the treatment mentioned by Dr. Swanzy as practised by Von Gräfe, though it was originally suggested by Jüngken, of dipping the whole head for a few seconds in cold water, not persistent in its effects."

ART. 166.—*A Contribution to the Surgery of Divergent Squint.*

By C. R. AGNEW, M.D., New York.

(*Transactions of Medical Society of State of New York*. Albany. 1872.)

In this paper Dr. Agnew gives an account of an ingenious method of shortening the rectus internus, in cases of divergent squint:—

"The method . . . is one in which the internus is detached from its sclerotic insertion, drawn forward, shortened, and made to adhere again to the sclerotic, without attempting to lift and advance the overlying conjunctiva and capsule of Tenon. The patient having been profoundly etherized, and the eye to be operated upon held open by means of a spring speculum, an incision is made from the nasal end of the horizontal meridian of the cornea, back through the semilunar fold to the caruncle. This incision is best made with scissors, and should be carried down through the conjunctiva and capsule of Tenon upon the internus midway between its borders. The externus of the same eye should now be divided, access being made to its insertion through a conjunctiva wound tangent [Qu. *secant*?] to the cornea. . . . This can easily be done without cutting off in any great degree the nutrition of the cornea, as is the case where the wound is made parallel to the corneal border. The next step is to get control of the internus so that it can be easily handled. This is accomplished, not by forceps, but by using a strabismus hook. . . . The free end of the hook, drilled with an eye and armed with a waxed ligature, is made to pass as one would pass an ordinary hook beneath the tendon, going

so far back as to secure any adventitious bands. As the hook is withdrawn, the ligature is left in place, and the tendon, at its sclerotic insertion, firmly tied. With scissors, the tendon is then detached from the sclerotic, and drawn out of the wound. . . . Two sutures for the advancement of the muscle are then placed . . . by curved needles, handled by some convenient needle-holder, like that of Prof. Sands. The sutures, well waxed, should transfix the muscle at as great a distance from the end of the tendon as the degree of divergence would seem to require. It is difficult to make an inflexible rule for this, but we have commonly found that the distance should be about one-fourth greater than the linear measurement of the divergence, except in cases where said divergence exceeds four lines, in which event the needles should transfix the muscle as far back as the carbuncle will allow. The sutures having been placed in the muscle, the next step is to carry them beyond the conjunctiva, and if possible, beneath the capsule of Tenon, and out above and below the cornea at the termini of its vertical meridian. . . . It now remains to cut off the end of the tendon, as held in the ligature, leaving a line or two of muscular tissue to prevent the sutures from tearing out, and to tie first the upper suture, and then the lower one with such manipulations as would serve to spread out the advanced tendon beneath the corneal end of the conjunctival wound, and over that portion of the sclerotic to which it is hoped it will adhere. The eye should be strongly and accurately adducted during these manipulations, by catching the scleral remains of the cut tendon of the external rectus in forceps, and so turning the cornea, without tilting its horizontal meridian, well over into the internal canthus."

ART. 167.—*Practical Remarks on the Treatment of Cataract.*

By G. CRITCHETT, F.R.C.S., Senior Surgeon to the Royal Ophthalmic Hospital.

(*Medical Press and Circular*, Dec. 18, 1872.)

The question upon which the chief differences of opinion exist amongst ophthalmic surgeons have reference chiefly, 1st, To the size, form, and situation of the wound; 2dly, To the performance of an iridectomy.

As regards the size, Mr. Critchett thinks it will be generally admitted that in old persons with hard fully-formed cataracts, it should be of sufficient extent to allow the exit of the lens without force. In respect to form, it should be curvilinear, representing a segment of a circle about double the size of the circumference of the cornea. Upon both these points there is probably considerable uniformity of opinion amongst operators. The two next questions, viz., the tissue in which the section should be made, and whether an iridectomy should be performed, involve some considerable differences of opinion. As regards the tissue, we have to determine whether the section shall be in the cornea or in the opaque white tissue that constitutes the border land between the cornea and sclerotic (a structure that varies much in extent in different subjects), or whether the two extremities of the wound shall be in the white fibrous tissue, and the central part in the transparent cornea. At first sight this may seem like hair-splitting, but in reality it involves an important principle. Some contend that one of these tissues unites with greater rapidity and certainty than the other, and to determine this, extensive and carefully drawn statistics are required. It is generally acknowledged that the cornea is much more prone to take on suppurative inflammation than the opaque tissue, and that *cæteris paribus* a wound of this latter heals better than in the cornea. As a proof of this we may appeal to the ordinary operation of iridectomy, which, so far as the operation is concerned, enjoys a remarkable immunity from risk, large statistics showing a loss of not more than one in five hundred cases. A similar wound inflicted on the cornea would give far less favorable results. The fair inference from this would seem to be that if we could limit the section exactly to this opaque tissue, making it of such a form and size as would permit of the free exit of the cataract, we should obtain more favorable

results than in a corneal wound, and Mr. Critchett is disposed to think this is correct; but there are certain risks in this operation that it is well to consider. They are chiefly three—1st. Greater liability to escape of vitreous humor; 2d. Proneness to secondary iritis; and 3d. *Possibility of sympathetic ophthalmia.* The reason of the first of these accidents is usually some spasm and pressure at the moment of the exit of the lens, or a long residence of the cataract in the eye, involving toughness and opacity of the capsule, atrophy of the ciliary ligament, and a fluid state of the vitreous humor. Secondary iritis usually depends upon some bruising of its tissue at the moment of exit, or some fragments remaining in the papillary area, or a constitutional proneness to fibrous inflammation after wounds, aggravated by entanglement of the cut angle of the iris in the wound. Sympathetic ophthalmia (fortunately an exceedingly rare occurrence) is probably due to an encroachment of the section upon the ciliary nerves, and a consequent bruising of that highly sensitive tissue during the transit of the hard cataract. All three contingencies may be usually avoided when they are fully recognized—the chief source of danger being not so much the seat of the wound as *the point of puncture and counter-puncture*; these being very liable without care to encroach upon the ciliary region. In order to avoid this, a greater curve may be given to the wound, so as to make it represent a larger segment of rather a smaller circle, in such a manner that the puncture, the counter-puncture, and the remainder of the wound are in the opaque tissue close to the cornea, and at a safe distance from the ciliary ligament, exactly in the situation where iridectomy is performed. It may be argued that in this way we are departing too much from the curvilinear and returning to the semicircular form of section, but although this may be in some measure true, it is unimportant when combined with iridectomy, and when situated in this opaque fibrous tissue, in which the edges keep well together and are generally aided by a conjunctival flap. Mr. Critchett believes that in a majority of cases, this method of operating, if carefully carried out in all its details, will give the best results, and has many advantages over a corneal operation. Under the most favorable circumstances, however, the warmest advocates of this method must admit, as an inevitable result, the permanent mutilation of the eye by the loss of a portion of the iris, the frequent occurrence of opaque capsule, and a certain amount of irregular astigmatism. In stating the case for curvilinear extraction with iridectomy, as finally bequeathed to us by Von Graefe, and in advocating its advantages, Mr. Critchett only claims it for a majority of average cases, and he states he should entirely fail in carrying out the objects of this paper were he not to put in a plea for the corneal section.

There are many who prefer the operation of Graefe with the modification of a corneal instead of an opaque fibrous section, limiting the fibrous part to the puncture and counter-puncture. Time and large experience can alone determine this point. It seems to Mr. Critchett that such an operation retains the objections and misses some of the advantages of the Graefe method. If the puncture and counter-puncture are beyond the limits of the cornea, the danger is not increased by making the remainder of the wound in the same tissue, so long as it be not permitted to encroach upon the limits of the ciliary region. If, therefore, it be determined to adopt the corneal section, it seems to the author that the operation described by M. Warlomont offers strong arguments in its favor. The section is curvilinear, it is made entirely in the corneal tissue by means of the needle knife, it is nearly painless, and may be performed without the use of an anæsthetic; it is comparatively easy of execution; it does but very little violence to the eye; it is seldom attended with prolapse or synechia; and if it quite succeed, leaves the eye with a circular small pupil, an almost invisible cicatrix, and good optical conditions. Secondary capsular opacity is rare. Mr. Critchett advises this method of operating to be preferred in every case to the old flap operation, which he thinks should now be altogether abandoned. It seems to be indicated in the following cases—1st. Wherever the modified linear extraction has failed in one eye; 2d. Wherever both eyes are operated upon at the same time one should be treated by this method; 3d. Whenever the patient is unable or unwilling to take chloroform; 4th. In persons but little past middle age, in whom the cosmetic result is im-

portant, and where it is desirable to obtain the highest optical effect; 5th. Where the cataract is not quite mature, and likely to be sticky, or to leave fragments behind; 6th. In cases where distance renders a secondary operation for the division of capsule difficult or even impossible; 7th. Where the anterior chamber is small and the circumference of the iris is close to the cornea so as to preclude a satisfactory curvilinear section through the opaque tissue between cornea and sclerotic. The objections and sources of danger in this method are the same in kind though not in degree as the old flap operation. There is—1st. The risk of suppurative of the cornea or even of the globe; 2d. Prolapse of the iris, though in consequence of the curvilinear form of the wound this is of necessity small and easily dealt with, and not incompatible with very fair vision; 3d. There is anterior synechia—the iris may fall forward and attach itself to the edges of the corneal wound. This, of course, mars the perfection of the eye, but leaves a clear pupil and a good optical result. Whilst Mr. Critchett far from believing that this operation will ever supersede the one known as that of Von Graefe, he is of opinion that it commends itself strongly in those cases indicated above, and, if judiciously selected, will diminish our average of failures.

ART. 168.—*Methods of Operating for the Extraction of Cataract.*

By JOHN GREEN, M.D.

(*St. Louis Medical and Surgical Journal*, Nov. 1872.)

Dr. Green, by request of the St. Louis Medical Society, gave a short sketch of a few points in Ophthalmology which had come under his notice during his recent visit to London, in attendance upon the International Ophthalmological Congress.

With regard to the methods of operating for cataract, he said: "The commanding authority of Professor von Graefe, during the latter years of his life, forced, as it were, upon the whole profession his peculiar operative method for the extraction of senile cataract. With the exception of very few operators, conspicuous among whom may be mentioned Professors von Hasner, of Prague, and Williams, of Boston, the 'peripheric-linear' operation of Von Graefe had come to be practised by all the world, and was regarded by many as the crowning perfection of this branch of ophthalmic surgery. The two years which have elapsed since Von Graefe's death have sufficed to change the practice of nearly all Europe in this operation, and it may safely be said that the 'peripheric-linear' operation, performed strictly according to the rules so carefully laid down by its author, is already almost a thing of the past. Not but that great results have sprung from the grand enthusiasm and untiring zeal of the great master, in perfecting this his last gift to the profession, for to him, more than to any other surgeon living or dead, we owe the present emancipation of the ophthalmic art from the restraint of authority, and in nothing more than in the manner of operating for cataract.

"The practice of the leading ophthalmic surgeons of Europe to-day would seem to show that the precise form and position of the external incision, and the performance or non-performance of iridectomy as a part of the operative procedure, are matters which are rather to be left in each case to the enlightened judgment of the surgeon, than to be settled beforehand according to any general rule."

ART. 169.—*Section of the Orbicular Muscle and Integument at the outer Canthus, as a prelude to Extraction of Cataract.*

By EDWIN CHESHIRE, F.R.C.S., Senior Surgeon to the Birmingham and Midland Eye Hospital.

(*Medical Times and Gazette*, April 12.)

Before operating for extraction of cataract, Mr. Cheshire has recently been making a section at the external canthus through the fibres of the orbicular

muscle and the integument, and he has found so much advantage from the proceeding that he submits the plan to his professional brethren, in order that it may be more fully tested. He has done only five extractions on this method at present, but in every case complete success has resulted. The advantages attending section of the orbicular muscle at the outer canthus are—more extensive exposure of the globe, which enables the operator to manipulate his instruments and to make the corneal section with greater ease; the spasmodic contraction of the orbicular muscle being overcome, the operator is left to complete his operation at his leisure; while all risk of sudden protrusion of the lens, followed as it sometimes is by prolapse of the iris and escape of the vitreous, is almost entirely avoided; and the contraction of the lids on the globe, which is sometimes a troublesome symptom in the after-treatment of cataract extraction, is prevented.

With division of the orbicular muscle, the wire speculum, which greatly facilitates each step of the operation, may be used without injury or annoyance to the patient. No sutures are required; the divided surfaces readily unite, and scarcely leave a trace of the section. All that is necessary to be done is to keep the eyelids nicely in apposition for a few days after the operation by means of strips of court-plaster.

The operation is done as follows: A wire speculum is placed between the lids, to enable the operator to make his section through the muscle and integument at the outer canthus with precision and ease. Mr. Chesshire makes no allusion to the mode of extracting, as the plan he proposes is equally applicable to all extractions; he always uses Graefe's knife, and Graefe's or Liebreich's operations are selected as may seem most suitable to the particular case. He never uses chloroform or ether in extraction, as the sickness which so frequently follows their administration far outweighs any advantage that may otherwise result from the use of anæsthetics during the operation; and with the orbicular section, the globe being so much more under control, they are still less required. Where great neatness is desired, the section may be made subcutaneously.

ART. 170.—On a Peculiar Form of Iritis which occurs in the Children of Gouty Persons.

By JONATHAN HUTCHINSON, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital, Moorfields.

(*The Lancet*, January 4.)

Recently, in the investigation of cases of iritis in connection with gout and rheumatism (the arthritic diathesis) Mr. Hutchinson's attention has been attracted to a peculiar form of the malady which has, he believes, not as yet been described. Its subjects are usually the immediate offspring of those who have suffered from true gout. The iritis occurs at an early age, and differs from the other forms of arthritic iritis in being insidious and persistent rather than paroxysmal. Without any attack of acute inflammation, adhesions quietly form between the iris and the capsule of the lens. These gradually increase in number, the pupil becomes first excluded and afterwards occluded, and, as a last stage, effusion behind the iris completes the disorganization of the eye. Mr. Hutchinson has as yet observed it pass on to complete destruction of sight in only a single instance. In the later stages he believes that opacities in the vitreous usually form, but, owing to the blocking up of the pupil, it is not always easy to demonstrate them. The malady in question usually begins in but one eye, and advances to almost entire loss of sight in it before attacking the other. Ultimately, however, both are almost always affected. Although Mr. Hutchinson asserts strongly that it differs from all the common types of arthritic iritis in having no paroxysms, and in being insidious, and for the most part painless, he by no means intends to deny that it is liable to exacerbations and periods of improvement. Thus the patient will usually complain that the eye feels hot and uncomfortable at the time that the adhesions are forming, and

sometimes there may be a slight and transitory congestion of the conjunctiva. These symptoms of inflammation are comparatively rather than absolutely absent. Mr. Hutchinson has thus far found the disease remarkably intractable under treatment.

ART. 171.—*Anatomical Investigations on Typical Retinitis.*

By F. E. LANDOTT.

(*Archiv für Ophthalmologie*, xviii., 1872; *Schmidt's Jahrbücher*, No. 10, 1872.)

The author has had opportunities of removing and examining the eyes of two patients, one aged sixty and the other forty years, who during life had presented each a typical example of pigmented retina with complete blindness. The result of the examination was briefly as follows:—

The principal changes had taken place in the retina; here there was an almost total disappearance of all the nervous elements, especially the rods and cones, and excessive growth of connective-tissue, both in the ciliary apparatus and about the walls of the vessels. The walls themselves were so much thickened as hardly to allow the passage of blood-corpuscles along the canals of the vessels; the finest branches were completely enveloped in connective-tissue. In the walls of the vessels was found transported and probably also newly-formed pigment, which was partly free and partly inclosed in cells. The pigment of the epithelial layer had to a great extent been removed from the layer and the cells, and been collected at isolated spots in a typical manner conditioned by the course of the retinal vessels, extending through the retina at many points as far as a vessel. The choroid was slightly or not at all changed. These, then, were cases of pure primary retinitis which had commenced as perivasculitis in the periphery, and resulted in degeneration of the vessels gradually extending towards the centrum. The thickening of the walls of the vessels is a primary, and the migration of pigment is a secondary, process, as is also the substitution of newly-formed connective-tissue for nervous elements. The author insists that this process is very similar to that of cirrhosis, and it is remarkable that both these subjects had succumbed to cirrhosis of the liver and kidneys.

ART. 172.—*On Affections of the Retina in Traumatic Fever.*

By Dr. M. ROTH, of Greifswald.

(*Deutsche Zeitschrift für Chirurgie*, i. 5, 1872.)

1. *Embolic panophthalmitis* was first known as the so-called "milk metastasis" in connection with puerperal fever. After the Vienna school recognized the "milk" as pus, a pyæmic or phlebotic ophthalmia was frequently recognized in association with other suppurative processes (after amputations, caries of the petrous bone, inflammation of the umbilical vein), and the choroid was shown to be the original seat of the infiltration. The cases of panophthalmitis with severe rheumatism, first described by Bowman, then remained obscure, but the discovery by Virchow of capillary embolism led to a correct explanation of this affection. It was shown that masses detached from the inflamed endocardium might be arrested both in the vessels of the choroid and those of the retina. Even puerperal panophthalmitis has without doubt an embolic origin of this kind. Dr. Roth found in one of such cases exulceration of the endocardium, considerable plugging of the branches of the retinal artery, and consecutive suppuration in the bulb, in addition to diptheritis of the uterine mucous membrane and effusion of pus in several joints.

2. *Septic retinitis* occurs more frequently than the above-mentioned form, and moreover is relatively benign, since it gives rise only to small white deposits, which consist of thickened nerve fibres, and connective-tissue corpuscles in a state of fatty degeneration, and occur in connection with extravasation of blood into the retina. Virchow was the first to describe this affection.

He found it existing once in a case of compound fracture, and once in a case of senile gangrene. Dr. Roth has collected records of nine autopsies. In all these cases ichorous deposits were present in the soft parts or in the joints, or there were indications of putrid bronchitis, suppurative pericarditis, pleurisy, or peritonitis. The embolic character of this form could not be demonstrated; externally the eyes were healthy.

ART. 173.—*Treatment of Polypi of the Ear.*

By W. B. DALBY, F.R.C.S., M.B. Cantab., Aural-Surgeon to St. George's Hospital.

(*The Lancet*, Dec. 14, 1872.)

In undertaking the treatment of a case of polypus of the ear, it is well at once to recognize its possible tediousness, and the necessary perseverance that may be required both on the part of the surgeon and patient to effect its complete eradication. Mr. Dalby is of opinion that it is perfectly useless to remove polypi and to do no more. No sooner are they taken away than they at once commence to grow again, and for this reason their extraction should be regarded merely as the preliminary step in treatment. When the meatus has been syringed, light should be reflected from a mirror worn on the head as in using the laryngoscope; both hands will thus be free. The growth should be carefully examined with a probe to estimate, as nearly as possible, the exact spot from which it springs. If it be a large polypus, a speculum will not be necessary, and a convenient instrument to use is a Wilde's snare. The noose should be made of fine fishing gimp, as this runs more easily through the rings than wire. When it is placed round the growth, and the point of the snare pressed as close to the root as possible, it should be made to cut its way through. If the polypus is not readily seen without a speculum, the largest one that the meatus will hold being placed in it, and the light reflected down it, the growth may be seized by a pair of rectangular ring forceps and pulled away. The root must now have a caustic regularly applied to it until it shows no further signs of regrowth. The caustic must be a strong one. Nitrate of silver is too weak. Potassa fusa and nitric acid are somewhat unmanageable, as they are apt to spread on to parts which it is not desirable should be touched. Mr. Dalby is in the habit of using chloroacetic acid on a small camel-hair brush, and applies it very freely. If the pain in doing this is severe it subsides immediately after using a syringeful of water. Eight or ten applications may be enough, but there can be no rule laid down for this. It is well to use it every day for a few times, and then less frequently. Having effected the complete eradication of the polypus, the further treatment will be the same as for an ordinary case of perforation of the tympanic membrane. As the discharge ceases the hearing improves, and the cotton-wool worn on the ear when it is found to be useful.

ART. 174.—*Abscess of the Mastoid Cells; Spontaneous Evacuation, followed by Caries.*

By S. HENRY DESSAU, M.D.

(*New York Medical Journal*, May.)

The following case is interesting in regard to the kind and manner of termination of the abscess:—

Annie F., aged two years, was brought to Dr. Dessau's clinic at the New York Dispensary, August 2d, 1871, to be treated for a puriform discharge from the left auditory canal, and from an inflamed opening at the upper portion of the temporal region, behind the auricle. The history that the mother gave was to the effect that an abscess had formed at the upper portion of the mastoid cells, some weeks previous to her presentation at Dr. Dessau's clinic, accompanied with great pain and deafness, and had opened spontaneously at the point

before mentioned, a week or so before he saw her. At the time, there was an offensive discharge of pus, indicative of bone-destruction. The child presented numerous features of the strumous diathesis.

A probe bent to a curve was passed into the opening over the mastoid cells, and made its exit at the meatus, bone being distinctly felt during its passage.

Dr. Dessau placed the child upon the use of cod-liver oil, and injected Villate's lotion into the sinus, the injection escaping at the external auditory canal. This injection was repeated every other day, and in the mean time the mother was directed to use an injection of carbolic acid (20 drops to the ounce) twice daily.

Dr. Dessau saw the child for several weeks, and then lost sight of it for many months, when he finally had an opportunity of seeing the result of the treatment, the sinus had healed completely, the discharge from the auditory canal had ceased, and the hearing on the affected side was almost perfect. This condition had existed for some time.

The following is the formula for Villate's lotion: R Liq. plumbi subacet., ʒj; cupri sulph., zinci sulph., āā ʒiv; aceti, ʒvij. Dissolve the crystals in the vinegar, and add the lead slowly.

ART. 175.—Fracture through the Petrous Bone into the Eustachian Tube ; Commencing Inflammation of the Bone and Membranes ; Recovery.

Under the care of Mr. JONATHAN HUTCHINSON, at the London Hospital.

(*The Lancet*, May 31.)

The following case, the notes of which are supplied by Mr. E. Nettleship, illustrates the difficulty sometimes met with in the diagnosis of a fracture of the base of the skull, and the importance of taking the evidence of all the symptoms, and not relying too implicitly on any one indication, which *per se* may or may not be evidence of such an injury.

Joseph N., aged twenty-two, a stoker, on May 10th, 1872, whilst under his engine for the purpose of cleaning it, raised his head without thinking where he was, and struck his left temple and the neighboring part of the head violently against a horizontal iron bar just above. He was not stunned, but the part was painful, and soon swelled. There was no bleeding or discharge from the ear, mouth, or nose at the time. He went on working for three days. At the end of the third day he vomited a little blood, and on the same day the left ear became deaf and "started a-singing," which persisted. On the fourth day the left side of his face was more swelled and inflamed. Severe pain in the head came on, and kept him awake at night. The swelling of the face and side of the head appears to have varied a good deal in degree during the next few days. The pain, which was "shooting," was confined to the left side of the head, and specially marked in the temple and behind the ear; worse at night, but never quite ceased in the daytime. This symptom continued until several days after admission. On the eleventh day he noticed for the first time that he could not shut his left eyelids; and after this other symptoms of facial paralysis gradually came on. On the seventeenth day he came to the hospital, first to Mr. Tay, by whom he was sent to Mr. Hutchinson. He then had complete facial paralysis and absolute deafness on the left side, and was complaining of great headache. His appetite had failed for several days, probably from the headache. From the history of the accident and of the gradual onset of the symptoms, and from the absence of bleeding or discharge from the ear, Mr. Hutchinson diagnosed a fissure-fracture of the left petrous temporal bone communicating with the Eustachian tube, and thus allowing the admission of air, which had been followed by inflammation of the bone and its contained structures, and then by the paralysis. A very grave prognosis was given; but it was thought advisable to administer mercury to rapid salivation, in order to prevent if possible further inflammatory effusion, and allow the absorption of that already present. Gray powder was ordered every four hours, and the patient was taken into the hospital.

For the first two nights his headache was less severe. On the second day after admission the bowels were freely opened by house medicine. On the third night, however, the pain was as bad as ever. After this date the headache almost left him, and did not return with any severity. The improvement began so soon after the mercury was begun that Mr. Hutchinson did not attribute it to the remedy. The patient never became salivated, and the mercury was discontinued on the fourth day. About ten days after admission a considerable fluctuating patch was discovered above his left ear; it gradually increased for about a week, and then slowly subsided, having never been tender or inflamed; it probably contained serous or bloody fluid, the result of the bruise. His hearing partly returned before he left the hospital.

He was discharged about three weeks after admission.

(B) CONCERNING THE TRUNK.

ART. 176.—*A Case of Injury to Upper Portion of Spinal Cord.*

By W. JOHNSON SMITH, F.R.C.S., Surgeon to the Seaman's Hospital, Greenwich.

(*Medical Times and Gazette*, March 29.)

Mr. Smith places on record a case of injury to the cervical portion of the spinal cord, which ended fatally on the thirty-seventh day, the autopsy failing to reveal any traces of damage to vertebræ, ligaments, or meninges, and there were no signs, macroscopic or microscopic, of effusion of blood within the cord itself. It seems very probable, Mr. Smith writes, that the immediate results of the injury were due to severe concussion of the cord, with sudden and temporary stretching of some of its fibres, which led to central softening, the inflammatory nature of which was indicated by the presence in the softened nerve-tissue of abundant granular corpuscles. Assuming that the most altered portion of cord, which was above the roots of the phrenic nerve, corresponded to the seat of the original lesion, it will be concluded, the author thinks, that the force of the injury must have acted principally on the soft central structures of the cord, and have left the firmer tissue at its periphery less seriously affected. Division of the cord at a spot so near the medulla oblongata, or compression of its whole thickness by a displaced vertebra or foreign body, would certainly have caused sudden death; on the other hand, severe traumatic lesions affecting the central parts and acting from within outwards are not, in any region of the cervical region, incompatible with some continuance of life. In a case recorded by Dr. Hughes Bennett,¹ a woman lived four days after an injury to the back of the neck which caused sudden paralysis of all four extremities and of the trunk; after death was found a clot of blood immediately below the medulla oblongata.

Samuel H., aged forty-five, a thin and pale man, a marble-polisher by occupation, was admitted into the Seamen's Hospital, Greenwich, on Jan. 4th, 1873, at 1 A. M., with palsy of the trunk and limbs, the result of an injury to the back of the neck and head.

On the previous evening, at about half-past five, the man, in a state of intoxication, slipped from the platform of the Deptford Railway Station on to the line, a fall of three feet and a half. It was supposed that he fell backwards, and struck the back part of the head and neck. He was picked up in a state of insensibility, and carried on a stretcher to the nearest police-station, where he was kept until the following morning, his condition for some hours after the accident having been so critical, that it was thought an unsafe proceeding to disturb him further by a removal to a hospital.

The patient, at the time of his admission into the Seamen's Hospital, presented no marked symptoms of shock, and was able to give a full and clear account of his sensations, and of the manner in which he received his injuries. There was a slight abrasion on the forehead, but besides this there was no

¹ "Clinical Lectures," second edition, p. 390.

external mark of injury. The spines of the cervical and of all the inferior vertebræ seemed to be regular and in their normal position, and the patient could move his head in all directions, though slowly and with pain. Common sensation seemed to be perfect in the neck, and over the upper part of the chest in front to a transverse line drawn about two inches below the clavicles. In all parts of the body below this, and in all the limbs, there was total paralysis both of sensation and movement. On tickling the sole there was strong contraction of the muscles of each lower extremity, and flexion of the limb. Well-marked contraction of individual muscles of the thigh and leg could be produced by lightly tapping the subjacent integument. The lower limbs were slightly drawn up, and the forearms also were flexed. The respiration seemed to be wholly diaphragmatic, the movements taking place sixteen times to the minute. There were frequent attempts at coughing, with profuse discharge from the mouth of thin and frothy fluid. The pulse was 76, and the temperature in the axilla $97^{\circ}.4$. The patient complained of headache, a dull heavy pain at the back of the neck, and a sensation as of a very heavy body pressing over the pit of the stomach and the lower part of the chest. The skin over the sacrum was marked by a large circular and bright red patch of congestion. No urine had been passed since the accident.

The patient was placed on a water-bed, and the bladder emptied by a Holt's winged catheter, which was allowed to remain, a long elastic tube having been added, so as to carry off the urine continuously into a vessel placed on the floor.

On the following day, Jan. 5th, the patient was in much the same condition, the respiration, however, being not so difficult, and the expectoration not so profuse. He still complained of great pain in the head and across the lower part of the chest.

During the next four days there was marked improvement in the general condition; the appetite was good, and the patient slept well at night. The breathing became easier, and slight inspiratory movements of the thorax were observed. The paralysis of the trunk and limbs still remained complete. Large superficial abrasions formed over the sacrum and over the inner surfaces of the thighs, above where they came in contact with the scrotum. These patches were frequently cleansed and dusted with powdered starch, and did not extend in depth.

On the evening of Jan. 9th the patient became feverish, and complained of much pain at the back of the neck, which prevented him from sleeping. The tongue became dry and brown, and the pulse, which on the 6th and 7th of the month was not higher than 68, rose to 88, and afterwards to 95. This febrile condition lasted for nine days, and on Jan. 17th, and the following days, was associated with increased flexion of the lower limbs and marked rigidity of the muscles. Strong reflex movements of the limbs could be produced by mere contact with the surface. The patient stated that the lower limbs were often suddenly drawn up, and that he was often disturbed by considerable movement in the water-bed on which he lay.

From Jan. 19th, when the febrile symptoms had quite disappeared, to Feb. 6th, very little change was observed in the general condition of the patient, and there seemed to be no great tendency to exhaustion. The thorax was moved slightly during inspiration, but the respiration was chiefly diaphragmatic; still a copious expectoration of frothy fluid, which was clear and thin; the appetite was good. The man, in consequence of the persistent tonic spasm of the muscles of the lower jaw, could take only fluid nutriment. The bowels were opened daily, loose motions being discharged in the bed. The tongue was clean and moist. Complaints were made of occasional severe pain at the back of the head, and of a constant dull pain over the stomach. The skin of the limbs and of the trunk below the nipples still remained quite insensible. The skin of the neck and upper part of the thorax in front sensible, but normally so, and not tender when rubbed. The skin was very dry, and on the legs was covered by small scales.

On Feb. 7th, there was a sudden and marked change for the worse in the condition of the patient. In the morning he talked somewhat incoherently,

and towards the evening became very delirious. The pupils were much contracted, and there was strong spasm of the muscles of the neck.

On the morning of the 10th, at about four o'clock, there was a sudden attack of profound coma, with coldness of the surface and an absence of pulse. He remained in this state until midnight, when death took place.

The temperature (taken in the axilla) during the first five days after the accident rose steadily from $97^{\circ}.4$ to 100° . On the evening of the sixth it suddenly rose to above 103° , and for the next eight days was usually between 101° and 102° in the evening, with a fall each morning of about two degrees. From Jan. 18th to Feb. 5th there was a gradual fall to below 91° ; from the 6th to the 9th there was an uninterrupted rise to 94° . The temperature taken between the toes was usually about one degree and a half below that of the axilla, and its fluctuations in this region followed very closely those of the axillary temperature.

During the whole progress of this case a winged catheter was retained in the bladder, and the urine allowed to run off continuously. The urine never became thick or ropy; it remained acid until Jan. 30, when it became neutral. On Feb. 1st it was slightly alkaline, but on the following day was again acid, and afterwards remained so until the day of the patient's death. For the first week the urine was passed in large quantities, the daily average being 120 ounces; it afterwards diminished to about two pints and a half. No sugar was ever detected.

ART. 177.—*On Ovariectomy.*

By J. MARION SIMS, M.D., Surgeon to the New York State Woman's Hospital.

(*New York Medical Journal*, December, 1872.)

Dr. Sims is of opinion that the death-rate is still too high, and, while the majority of operators are quibbling about the form of ligature or clamp, the great cause of death (septicæmia) is entirely overlooked. He proposes to puncture the cul-de-sac of the vagina behind the cervix uteri, and to pass a tube of some sort into the peritoneal cavity, to drain off any effusion that may take place in the cavity. This he recommends to be done as the final part of the operation. It cannot, he says, do the least harm, and may possibly be the means of saving life. If no discharge take place, it can be removed *per vaginam* in a few days. He prefers silver-wire ligature to anything else as a rule.

ART. 178.—*Third Series of Fifty Cases of Ovariectomy.*

By T. KEITH, F.R.S.C.E.

(*The Lancet*, November 16, 1872.)

Mr. Keith, who has now performed ovariectomy one hundred and fifty times, with eighty-four recoveries in the last one hundred operations, has published a statistical table of his third series of fifty cases. This table shows eight deaths in the fifty cases. Two died from obstructed intestine, one from acute septicæmia, and five from peritonitis. In two of these adhesions were considerable, in one moderate; while in five the tumors were non-adherent.

In nearly all the fatal cases the general condition of the patient was bad. They were all poor women, pretty much worked out, though the tumors were of only moderate size. The result in the 106th case was very disappointing. Everything was most favorable for a successful termination, yet the patient died from diffuse peritonitis, in a way Mr. Keith states he never saw before nor since.

In six of the fatal cases the clamp was used. In one, catgut ligatures to one ovary and clamp to the other; in another, the long ligatures of Dr. Clay. In

nearly one-third of the cautery cases bleeding took place from large vessels, and ligatures were necessary. Many of the cases had been tapped once or oftener; and, as a rule, a manifest improvement in the general health followed the tapping. One had been tapped twenty times, another fourteen times, before operation, yet both made excellent recoveries. Only one of the fatal cases had been tapped. It was that of a young girl dying from a suppurating cyst. Ovariectomy was performed a few days after, but it did not save her. Yet in this series, in other five as hopeless-looking cases of suppurating cyst with septic fever, operation was perfectly successful.

Except that the cautery has sometimes been used in dividing the pedicle, there has been little change in the way of operating or in the general management of the cases since last report. During the operation perhaps more care than ever is taken to tie every bleeding point; and it need hardly be added, that Lister's animal ligatures are now used. After operation the same precautions are taken in restricting the giving of food and stimulants, especially food.

As an anæsthetic, pure, dry sulphuric ether (Macfarlane's) made from methylated alcohol is always used, and with the best results, especially in the very feeble women. Of one hundred cases in which sulphuric ether has now been given, there have been only thirteen deaths.

ART. 179.—*On the Treatment of Psoas and other Large Abscesses.*¹

By JOHN F. SIMON, Esq., F.R.S., Surgeon to St. Thomas's Hospital.

(*British Medical Journal*, May 10.)

In reference to several cases of large chronic abscesses under his care, Mr. Simon remarked, "that the only real difference between psoas and most other abscesses due to diseased bone was, that its cause was deep within the body. If the diseased bone could be removed, the abscess would heal; but the bodies of the vertebræ were out of reach: the surgeon could only mitigate the symptoms, and leave the rest to nature. If the disease were only caries, a cure might result, with more or less angular curvature of the spine; but if necrosis were present there was no chance of a cure, the dead bone was not absorbed, its presence kept up a constant purulent discharge, and this led to anemia, to albuminoid disease of the liver and kidneys, and finally to death from hectic and exhaustion.

"In all these cases of chronic suppuration, the amount of constitutional and visceral damage is closely proportioned to the amount of the discharge: the amount of the discharge is proportionate to the extent of the abscess-cavity, and this depends, to a great extent, on the time it is suffered to extend. The great point in the treatment of these cases is, as far as possible, to prevent the formation of a large pus-secreting cavity. If, therefore, there be any suspicion of the existence of deep suppuration, keep a sharp look-out, and open the abscess as soon as you can detect fluctuation, unless the proximity of large vessels, or of other important structures, affords strong reasons for delay.

"In situations where the progress of the disease can be watched, as, for example, in abscess of the knee-joint, the difference in the result, according to whether you let out the matter early or not, is very great. If the pus be soon evacuated, there is a fair chance of saving the limb, and even of regaining some motion in the joint; but if the incision be postponed, the joint soon becomes utterly disorganized, burrowing sinuses form, and the neighboring soft parts become deteriorated by infiltration.

"There is, however, this serious difficulty in opening a psoas abscess. Perhaps it forms a large bulging tumor in the groin, yet the patient is fairly well; you cut into it, he at once becomes feverish, and in a fortnight is in *extremis*; then an ignorant person may reproach you with killing the patient. But, however well and strong the patient may appear, it is certain that this febrile condition will supervene sooner or later. It is inevitable. The longer it is

¹ Abstract of a Clinical Lecture delivered at St. Thomas's Hospital, London.

postponed the worse it will be, since the cavity of the abscess will be larger. Be careful, then, always to explain to the friends of the patient that the operation is a serious one, but that the consequence will be more serious the longer it is delayed. The severity of the consequent fever may, however, be greatly mitigated by treatment. Ten days ago, I opened a large dorsal abscess in a little girl, now under my care. I made a free incision, a very large quantity of thick pus escaped, and air was not excluded, yet the child has hitherto had no fever, and appears quite comfortable. All this time the cavity of the abscess is shrinking; and if the fever should now appear, it would be far less severe than it would have been had it occurred immediately after the operation. I owe this satisfactory state of things to the local application of cold; directly the pus was evacuated, an ice-bag was applied, and has been continued since. I have succeeded equally well in a large number of similar cases, and I can confidently recommend ice as an incomparable antiphlogistic.

"Of course, if necrosed bone be present, the abscess will not entirely close; a mere sinus will, however, be left, which will not drain the patient to any considerable extent.

"As I have said, I do not take extreme precautions to exclude air. At present I am inclined to reserve my judgment as to the value of the carbolic acid treatment, or at least to the theory on which it is based; it is not yet proved that bacteria are the cause of unhealthy inflammation. Certainly air, as air, does not cause inflammation; and emptying an abscess by aspiration does not prevent the inflammatory process in its cavity. Recent experiments do, however, show that bacteria pass very readily in water, and attached to moist things; and common experience teaches us that infection is much more likely to be carried by sponges and surgical instruments than by mere air. From my own experience, I do not think that air, if only ordinarily pure and dry, is such a poison to surgical wounds as some assert; but, whatever your theory may be, always carefully disinfect all surgical instruments, etc., with boiling water.

"Finally, I must qualify my advice with a caution: remember that fluctuation is not always due to pus. Open early all acute or chronic abscesses, but never cut into collections of blood or synovia. A bruise in ill-conditioned subjects, may be followed by extensive extravasation of blood, causing a fluctuating tumor which, if deep in the limb, might easily be mistaken for an abscess. If these extravasations be let alone, and treated with cold applications, they disappear, though they may take a long time about it; but an incision into one is generally followed by grave constitutional symptoms. If well-marked signs of inflammation appear, you must treat the swelling as an abscess; otherwise never open one.

"When you are dealing with chronic suppuration, always look out for the chronic cause. The tendency of inflammation is to subside, unless there be a stimulus of some sort present. A man was admitted here some time ago, with a deep wound in the gluteal region, caused by falling on a spike; the wound did not heal, and after some weeks, on careful examination, a piece of his trouser was detected at the bottom. So, again, there is a boy with disease of the knee-joint in my ward, whose leg has been saved entirely by attention to position. By extension of the limb, and pushing back the femur, we have greatly reduced the inflammation; and whereas the child was before rapidly becoming worse, he is now as rapidly mending. Always treat such displacements in young subjects early and carefully; mere dislocation of the parts will keep up irritation and suppuration, without the presence of any dead bone."

ART. 180.—A Case of Unilocular Cyst of the Ovary treated successfully by Puncture through Wall of Vagina.

By Dr. TILLAUX.

(*Bulletin de Thérapeutique*, Janvier 30, 1873; *Gazette Hebdomadaire*, No. 12, 1873.)

The patient was admitted into the St. Antoine Hospital on April 16th, 1870. She was thirty-three years of age, and had always had excellent health. Early

in the year 1868 she recognized the presence of a tumor occupying the right side of the hypogastrium. The continuous progress of the tumor and the pain which it excited in the neighboring parts compelled the patient to enter the hospital. At the time of her admission she presented the following condition.

The abdomen was distended as at the fifth month of pregnancy. In the hypogastrium could be felt by palpation a smooth, elastic, heavy, and fluctuating bilobed tumor. The vaginal examination permitted Dr. Tillaux to obtain valuable indications; the axis of the vagina was almost vertical; its anterior wall was normal, and its posterior wall presented at its most deeply seated portion a protrusion of the size of a hen's egg. Hypogastric palpation combined with the vaginal examination gave a very distinct sensation of fluctuation.

The uterus was elevated and immovable, the neck forcibly pushed backwards was in contact with the posterior surface of the pubis.

The bladder, which was flattened against the abdominal wall and the posterior surface of the pubis, could contain but little water. A rectal examination demonstrated that the anterior wall of the viscus was depressed and pushed into the concavity of the sacrum.

The case was diagnosed as one of cyst of the ovary confined in the small pelvis and fixed there by peritoneal adhesions.

On April 22d the vagina was punctured with Boinet's trocar. About three litres of a fluid resembling in color café au lait were removed. Tincture of iodine diluted with half its quantity of water was then injected into the sac. In the evening the pulse was 112, the axillary temperature 37°·8 C., the skin cold, the patient was in a state of stupor and complained of headache and iodid dysphagia. The abdomen was supple and less tender. The operation had been followed by four serous stools.

On the following day the abdomen became swollen and very painful; the patient was restless at night; she had no appetite, her countenance had changed considerably, and her skin was hot and dry. In consequence of these unfavorable general symptoms, Dr. Tillaux recommended his patient to leave the hospital; this she did on May 2d.

On May 20th she was readmitted. The general health was much improved; the tumor had been partly reproduced, and the patient again complained of severe pain in the hypogastric region.

On May 23d a second puncture was made by the vagina, and half a litre of fetid pus removed. A tube was left in the sac through which solutions of carbolic acid was frequently injected. This treatment was continued until June 20th, when the sound was withdrawn. The patient was then able to get up, and although not completely cured, was able to leave the hospital.

Dr. Tillaux has frequently seen this patient since her discharge, and has been able to confirm her cure as complete.

ART. 181.—*Removal of a large Uterine Fibrous Polypus.*

By J. MATTHEWS DUNCAN, M.D.

(*Transactions of the Edinburgh Obstetrical Society.* 8vo. Pp. 455.
Edinburgh. 1872.)

Patient, forty-four; mother of a child born 15 years ago; had felt a tumor in the abdomen for twelve years, during which time she had had a profuse thin purulent discharge; uterine hemorrhage at times very great; appearance pale, anæmic, and sallow. The tumor was cut away in portions by a curved écraseur without much loss of blood, and its broad base enucleated, after an operation of an hour and a half. The tumor weighed 2 lbs. 6½ oz.; patient much exhausted; perineum considerably lacerated; made a good recovery. The main difficulty in the removal of the mass was the narrowness of the vaginal outlet, and the impossibility of drawing the tumor down through it. The plan of operation, in so far as it was possible to carry it out, was to spirally cut down the tumor, and, at the same time, avoid completely detaching the removed part, causing

an elongation of the mass, as in the *turned toy-snake*. This operation—proposed by Dr. Alfred Hegar, of Darmstadt—is one of almost impossible performance with an *écraseur*, as proved by Dr. Duncan's case, in which the incised portions were repeatedly torn away. Where it can be done, Dr. Duncan considers the enucleation of the pedicle much preferable to cutting it off.

ART. 182.—*On a new Proceeding for the Treatment of Vesico-Vaginal Fistula.*

By M. LANNELONGUE.

(*Gazette Médicale de Paris*, No. 15, 1873.)

M. Lannelongue has recently communicated to the Surgical Society of Paris a very interesting report of a case in which a vesico-vaginal fistula was treated by a new and very ingenious proceeding.

The fistula occupied almost all the anterior wall and part of the lateral walls of the vagina. The *bas-fond* of the bladder, and the corresponding portion of the vagina had been destroyed. The ureters opened into the vagina, the right duct against the ischio-pubic ramus, the left at the angle of the fistula. The posterior wall of the bladder protruding through the fistula, descended as far as, and even beyond, the vulva, where it formed a red tumor of the size of a pigeon's egg.

By a preliminary operation, M. Lannelongue replaced in the bladder the orifice of the ureter, which had opened into the vagina. For this purpose he introduced into the canal of the ureter a needle carrying the chain of an *écraseur*. After having traversed the canal for about a centimetre, the needle was pushed into the bladder. The superior wall of the ureter for this extent was then divided by the chain of the *écraseur*.

The new proceeding carried out by M. Lannelongue consisted in making use of the prolapsed bladder in order to make up for the enormous loss of substance presented by the walls of the vagina. He formed on the vesical mucous membrane a raw surface, presenting a transverse band about one centimetre in width, and passing from one to the other of the lateral angles of the fistula. The margins of the fistula were then pared, and maintained in contact with the raw surface of the bladder by means of eleven points of metallic suture. Eight days after this operation the wire sutures were removed; the opposed surfaces were united, and the perforation was entirely filled up. A desideratum moreover was left after the operation. The ureter, which opened at the angle of the fistula, and which was not, like the other, returned to the bladder, still remained patent in the vagina.

At the time that M. Lannelongue presented his patient to the Society of Surgery, that is to say, two months after the operation, the vesical flap occupying the perforation was thick, resistant, slightly prominent on the side of the vagina, where it formed a swelling, the color of which was deeper than that of the rest of the vaginal wall. With regard to the diminution of the vesical capacity, which was necessarily produced by removing from the bladder a part of the wall, limiting its surface, M. Lannelongue observed that it was not very considerable, and would probably present no inconvenience; indeed, a small sound introduced into the bladder could be moved freely and easily in the new cavity.

There is one circumstance, however, which seems to inspire more fear for the complete re-establishment of the functions in this patient; this is the absence of the neck of the bladder, all the *bas-fond* of this organ being included in the fistula. M. Lannelongue hopes, by means of electrization, to afford to the muscular fibres which, according to M. Sappey, continue in some fashion the neck of the bladder over a certain extent of urethra, an exceptional development which will be sufficient to arrest the involuntary flow of urine.

ART. 183.—On Diagnostic Puncture in Cases of Abdominal Collections of Fluid.

By Professor OTTO SPIEGELBERG.

(*Archiv für Gynakologie*, No. 2, 1872; *Schmidt's Jahrbücher*, No. 10, 1872.)

As a contrast to a previously reported case in which, through omission of an exploratory puncture, hydatid disease of the kidneys was confounded with an ovarian cystic disease, the author relates another in which pus was removed by puncture of a cyst of doubtful origin situated in the umbilical and hypogastric regions. Strong reaction was the result of this proceeding, but this soon ceased. The sac again filled to a considerable extent, and then it was decided to make an exploratory incision. The sac appeared at first to be that of an ovarian tumor, but on puncturing it a considerable quantity of purulent fluid was discharged, and then the ovary could be felt, and was found quite free. The cyst had had a retro-peritoneal origin; on opening it further, an hydatid membrane suddenly protruded. The cyst was partially excised, and the remainder of it fixed to the abdominal wound. A cure resulted after prolonged suppuration (eleven weeks) and destruction of the sac.

This case shows that a puncture even of a cyst with specific contents may give rise to deception. How valuable this plan may be though, through its positive results, is proved by another case reported by the author in which a large retro-peritoneal and mesenteric sarcoma, extending into the pelvis, simulated an ovarian cyst through numerous sacculated ascitic cavities and secondary pedunculated connection with the fundus of the womb. A puncture was followed by the discharge of a small quantity of dark-colored fluid containing several red and white blood corpuscles. That this fluid was serous in character was proved by its spontaneous coagulation and the absence of epithelial elements. The author refrained from operating, and death resulted from marasmus and pulmonary oedema.

In another case, in which the tumor was not to be reached from the pelvis, and in which there were several diagnostic difficulties, the author decided upon operating, since through exploratory puncture a fluid had been removed which contained vesicles, cholesterine crystals, numerous round cells, cells with clear swollen and vesicular contents, and numerous nucleated, cylindrical, epithelial cells which were clearly defined. The epithelial character of the tumor (ovarian) was thus established. The operation of ovariectomy, however, was not completed in consequence of extensive adhesions between the ovarian cysts and the abdominal parietes, and death finally resulted through suppuration of the cyst.

The author concludes that exploratory puncture, although it does not always afford positive disclosures concerning the origin of abdominal collections of fluid, must, when it does do so, be regarded as a sure means in comparison with the doubtful results of physical and other methods of investigation.

ART. 184.—Report of a Successful Case of Gastrotomy in Extra-Uterine Gestation.

By LAWSON TAIT, F.R.C.S.

(*Medical Times and Gazette*, February 22.)

At a meeting of the Royal Medical and Chirurgical Society, February 11th, Mr. Tait related a successful case of gastrotomy in extra-uterine gestation. In the case of J. N., aged twenty-seven, retro-uterine pregnancy was diagnosed on Sept. 23d, the child having arrived at the term and died about the end of the July previous. The operation was performed on Nov. 2d, the section being much as in ovariectomy. After opening the sac the feet presented, and no difficulty was experienced in removing the child, except in extracting the head

from the pelvis, in which it was deeply packed, and where it had contracted adhesions to the floor of its cavity. The edge of the wound in the sac was stitched to the edge of the peritoneal wound by a continuous suture, the peritoneal cavity being thus completely closed. The upper half of the parietal wound (its entire length being about seven inches) was closed by deep sutures. A siphon drainage-tube was inserted deeply into the pelvic cavity, and the whole was syringed out every eight hours with a solution of sulphite of soda. A fetid discharge issued from the cavity till about the eighth day after the operation, when it became purulent and was mixed occasionally with placental débris. Pieces of detached placenta were removed occasionally, together with foetal hair which had become adherent to the internal surface of the cyst, and been detached from the scalp in removing the child, until Nov. 29th, when the great mass of the placenta was removed. After this the cavity rapidly closed, the part in the pelvis being quite obliterated early in December, and the whole shut by the end of the month, leaving only a small sinus. The patient had a severe struggle with hectic. The chief peculiarities of the case are—the absence of any “false labor” previous to the death of the child; the leaving the placenta undisturbed; and the peculiar method of closing the peritoneal cavity, and leaving the parietal wound partly open. To leave a communication between the cyst and the peritoneum is to run the gauntlet of pyæmia and peritonitis. Closing the parietal wound entirely must lead to similar results. The operation, performed as in this case, would seem to have no greater risks than ovariectomy, and it is certainly preferable to leaving the cases to take their chance of discharging the misplaced fœtus by suppuration. If possible, the operation ought to be done near the term, and before the death of the child. If the latter condition cannot be obtained, the operation ought to be undertaken as soon after the death of the child as possible, to avoid the serious complications of adhesion between the fœtus and the cyst.

ART. 185.—*Removal of a Needle from the Heart; Recovery of the Patient.*¹

By GEORGE W. CALLENDER, F.R.S., F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, Feb. 22.)

This is the history of a man who for nine days followed his ordinary occupation, in pain and with discomfort, having a needle fixed in the tissues at the apex of the heart. On the ninth day, in consequence of his statement and in view of the pain he was suffering, an incision was made over the fifth intercostal space, and the broken eye of the needle was found on a level with the intercostal muscle. This extremity was seized, and the foreign body was withdrawn. The patient recovered without an unfavorable symptom. With this history the exact position of the needle in the wall of the chest is given, as also is that of its probable position in the heart; the movements of the foreign body, caused by those of the heart, are figured, and their measurements are added. Some remarks are made upon recovery and duration of life after somewhat similar injuries, and an appendix of cases is given in the form of a table.

ART. 186.—*Extraordinary Case of Pin-Vomiting, etc.; Recovery.*

Under the care of Dr. G. WRIGHT HUTCHISON, at Bedford Hospital, Fort William, N. B.

(*The Lancet*, Jan. 18.)

Cases like the following occasionally come under the care of the medical man, and generally occasion much doubt and scepticism. There can be no

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, Feb. 11th.

doubt that the majority, if not all, are impositions. It would be interesting to know whether the patient in this case was left-handed, for it is to be remarked that the needles were discharged from those parts of the body into which they could be best introduced by the left hand—*e. g.*, behind the left ear, from the left nostril and right forearm. Further, the fact that all the pins were bent at an acute angle seems to point to an intentional bending rather than an accidental one produced by biting the pins, for it would hardly be possible to bend a pin at an acute angle by means of the teeth only.

Catharine M., aged twenty, a nursemaid, was admitted on Aug. 30th, 1872. The patient stated that, while employed fixing clothes to a line the previous day she, having four or five large pins in her mouth, had accidentally swallowed them. She complained of a constant jagging pain in the precordial region. Having remained in hospital eleven days, during which time she vomited five pins (an emetic having been administered every second day), she was dismissed cured.

After being four days at home she again experienced the jagging pain in the precordial region, and her mistress having administered large quantities of warm water, she vomited two pins. From this time her stomach remained very irritable, and she was constantly vomiting—having great pain while retching—till on Oct. 20th she vomited no fewer than twenty-three pins. For nine days after this date a needle came out at a spot over the origin of the sterno-cleido-mastoid muscle behind the left ear—one needle each day. On Sept. 20th two needles came out of the left nostril in succession, each needle being in three pieces. Blood flowed freely from her nose and mouth.

On Oct. 26th she applied for readmission into hospital, which was granted. On the first two days of her residence in hospital a needle came out each day behind the left ear. On Nov. 2d, at a spot on the front of her right forearm, about two inches from the elbow-joint, a needle came out, and the broken-off point of which issued at the same spot next day. On November 4th another needle, minus the point, came out at the same spot. She remained in hospital for some weeks after this date, and the irritation having left her stomach, and her general health being excellent, she was dismissed, returning to her service, and, so far as is known, having kept quite well since.

She is, and always has been, a strong healthy girl, without the slightest tendency to hysteria. Seventy-five pins in all were vomited, all of which have been carefully kept. The pins are such as are sold by weight, not in paper. They are all quite clean, and bent at an acute angle. One of them is what is called a safety-pin. It came up in three pieces. The needles are blackened and slightly eroded. Two of them are threaded, the threads being, in each instance, about three inches long. Before a needle made its appearance pain was felt, shifting along till the needle made its exit. Thirteen needles in all came out. Of the nine which issued behind the ear, eight came out about an hour after breakfast, whilst the ninth appeared an hour after dinner, probably from the action of the muscles of the jaw.

The girl was repeatedly cross-examined with a view to ascertaining how the pins and needles came to be swallowed. Except in the instance of the five pins swallowed while hanging up clothes to dry, she is not aware of even having swallowed pins. She had, however, been in the constant habit of putting pins in her mouth from childhood, and often fell asleep, after undressing the children at night, with half a dozen pins in her mouth. Her present mistress said that she had observed the habit in her nursemaid, and that one morning she had found the girl asleep with half a dozen pins between her cheeks and her teeth. The fact of all the pins being bent is a curious one. Probably she would chew them, as it were. She has a beautiful set of teeth.

The history of the case is almost incredible, but, from what was observed in hospital, and from the evidence of her mistress, which is thoroughly reliable, there can be no doubt about its being *bonâ fide*.

ART. 187.—*Two Cases of Cancer.*

By T. W. NUNN, F.R.C.S., Surgeon to the Middlesex Hospital.

(Medical Times and Gazette, Dec. 14, 1872.)

At a meeting of the Clinical Society of London, Nov. 22d, Mr. Nunn read a paper "On Two Cases of Cancer of the Left Breast"—the first of eight years', the second of twelve months' duration. The first case was that of Ann F., spinster, aged forty-four. The patient came under Mr. Nunn's care as out-patient in 1868, two years after removal of a cancer from the left breast by Mr. Henry Smith at King's College Hospital. In 1870 she was admitted in-patient at the Middlesex Hospital. Soon after her admission the recurrent cancer sloughed out, and the sore healed, and remained healed until her death, in August, 1872, from cancer of the liver; the lungs, spleen, and kidneys being normal, while secondary deposit was found on the inner and outer aspects of the ribs of the right side and also in the manubrium sterni. The second case was that of Mrs. R., who was brought to Mr. Nunn, by Dr. Saunders, of South Molton Street. The patient was the mother of five children, and was only twenty-seven years of age. At the sixth month of her last pregnancy she had discovered a small lump in the left breast. Two months after her confinement she came under Mr. Nunn's observation. The tumor was at that time undefined. After two months the patient suffered from ptosis of the left eye, and ultimately with paralysis of the third nerve generally. She became extremely fat; and she died paralyzed in the lower extremities, frequently having suffered from severe neuralgic pains in the upper cervical and dorsal regions. Towards the end of her life the temperature in the axilla was 104° , the cancer of the breast having become of stony hardness. Mr. Nunn remarked upon the uncertainty of surgical practice in respect of cancer, which, he said, must remain uncertain so long as our knowledge of the disease was incomplete. The variety of forms in which cancer presented itself was in some measure due to the modification of the disease by the peculiarity of the structure in which it was found, and by the situation and surroundings of the selected structure. In the first case the cancer occurred in an unmarried, under-sized woman, whose frame was undergoing involution; in the second case the disease appeared in a woman in full reproductive activity. Assuming cancer to be a local disease, we were still unable to say what rendered the cancer germs stationary, living their life and undergoing retrograde changes without travelling to distant parts and there proliferating; and we were unable to tell what constituted the difference between cancer germs content with a local career, and those of a propagandist order, or what conditions provided each of the opposite degrees of activity. Was non-contamination due to resistance of the parts or tissues exposed to contamination, or to some local change in the cancer destroying its power of contaminating? What share had inflammatory action, by softening the tissues and stimulating proliferation, in promoting diffusion? Assuming, on the other hand, that cancer was a blood disease, how could one justify the removal of a cancer by operation? A clinical study of cancer showed that, if the surgeon did not step in with knife or with caustic, the disease itself, by inducing gangrene or ulceration, produced a wound that very rarely healed; and that, therefore, the surgeon did in a clean and effectual manner, *pro tempore*, what sooner or later the disease would more painfully and ineffectually attempt. Mr. Nunn asserted that he had seen no instance in which diffusion of cancer was really accelerated by operation.

ART. 188.—*On the Curability of Inguinal Hernia.*

By JOHN WOOD, F.R.C.S., F.R.S.

(Medical Times and Gazette, Feb. 15, 1873.)

At a meeting of the West Kent Medico-Chirurgical Society, Jan. 3d, Professor Wood described his operation, which is as follows: It is intended to draw forward the hinder and inner walls of the hernial canal by transfixing the conjoined tendon and uniting it to the front and outer wall by suture, so as to close the hernial canal entirely. He invaginates the hernial sac, without including the skin, and by the arrangement of the sutures draws up its fundus into the deep hernial opening on each side. The pillars of the superficial ring are bound together, no skin being suffered to intervene. The conjoined tendon and Poupart's ligament are caused to adhere across the cord, and are blended in one mass of adhesion with the invaginated sac and pillars of the superficial ring. The instruments used by Professor Wood are very simple, consisting of a small tenotomy knife and a stout semicircular needle mounted in a strong handle, with a point flattened antero-posteriorly, and adapted rather for splitting than cutting the tissues. The needle is introduced each time unarmed. While the tissues are transfixed by it, a piece of stout copper wire, silvered, about two feet long, is hooked on the needle's eye, and drawn back with it through the tissues. The patient being laid on his back, with shoulders well raised and knees bent, the pubes clean shaved, the rupture completely reduced, and chloroform given, an oblique incision about an inch long is made in the skin of the scrotum, over the fundus of the hernial sac. The knife is then carried flatwise under the margins of the incision, so as to separate the skin from the deeper layers of the sac to the extent of about an inch or rather more all round. The forefinger is then passed into the wound, and the detached fascia and fundus of the sac invaginated into the canal. The finger then feels for the lower border of the internal oblique muscle, lifting it forward to the surface. By this means the outer edge of the conjoined tendon is felt to the inner side of the finger. The needle is then carried carefully up to the point of the finger, along its inner side, and made to transfix the conjoined tendon and also the inner pillar of the superficial ring. When the point is seen to raise the skin, the latter is drawn over towards the median line, and the needle made to pierce it as far outward as possible. A small hook, bent on the end of the wire, is now attached to the eye of the needle, drawn back with it to the scrotum, and then detached. The finger is next placed behind the outer pillar of the ring, and made to raise that and Poupart's ligament as much as possible from the deeper structures. The needle is then passed along the outer side of the finger, and pushed through Poupart's ligament a little below the deep hernial opening. The point is then directed through the same skin puncture before made, the other end of the wire hooked on to it, and drawn back into the scrotal puncture as before, and then detached. Next, the sac at the scrotal incision is pinched up between the finger and thumb, and the cord slipped back from it as in taking up varicose veins. The needle is then passed across the sac, entering and emerging at the opposite end of the scrotal incision. The end of the wire is again hooked on and drawn back across the sac. Both ends of the wire are then drawn down until the loop is near the surface of the groin above, and are twisted together down into the incision, and cut off to a convenient length. Traction is then made on the loop; this invaginates the sac and scrotal fascia well up into the hernial canal. The loop of wire is finally twisted down close into the upper puncture, and bent down to be joined to the two ends in a bow or arch, under which is placed a stout pad of lint; the whole is held steady by a spica bandage. The wire is kept in ten days or a fortnight, or even longer if consolidation and adhesion are not satisfactory. Very little suppuration usually follows, but after a few days the parts traversed by the wire can be felt thickened and hardened by extensive deposit, which blends together the sac, the pillars of the superficial ring, and the tendinous boundaries of the hernial canal into a resist-

ing mass, the wire becoming more and more loosened by ulceration in its track, until it can be untwisted and withdrawn. In this operation the hernial canal is closed along its whole length, and an extended adherent surface is obtained to resist future protrusion. A horseshoe truss is worn for a few months; it may then be laid aside, unless in occasional cases or when the patient is about to be subjected to violent strains or lifting. For large cases of direct hernia Professor Wood crosses the wires in the canal, and obtains an additional hold on the pillars of the ring below. The ring-pad truss is also employed in these cases after the operation. The number of cases Mr. Wood has operated on is close on 200; percentage of cures, as far as can be ascertained, 50 per cent. in cases above fourteen, and 70 to 75 per cent. in cases under puberty; three deaths, or $1\frac{1}{2}$ per cent. In one case death was owing to peritonitis commencing in a loop of intestine on the opposite side, which had been strangulated in the sac previous to operation. In another case death resulted from pyæmia three weeks after the operation. Most of those not entirely cured have been much improved, and a truss made more available; none have been made worse.

ART. 189.—*On the Radical Cure of Hernia.*

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery; a Manual.* London. 1872.)

Mr. Bryant believes that where a hernia can be kept up by a truss, and the patient is likely to remain in a civilized country where trusses can be obtained, any operation for the radical cure is unjustifiable; to risk the life of the patient on the theory of a cure, with the probability that he will be rendered less liable to its descent, when a truss has to be worn subsequent to the operation as a matter of safety is, he says, a practical delusion.

ART. 190.—*Treatment of Strangulated Hernia.*

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery; a Manual.* London. 1872.)

Mr. Bryant recommends "the taxis," and when this fails, herniotomy. To aid these means chloroform should be employed; it renders the reduction of a hernia by the taxis, a gentle, and comparatively a simple measure; and it facilitates the operation of herniotomy. The warm bath, the administration of opium, the injection of tobacco, the local application of ice, are, in Mr. Bryant's opinion, poor and unreliable remedies for strangulated hernia.

ART. 191.—*On Hydrocele.*

By Dr E. VETAULT.

(*Considérations Etiologiques sur l'Hydrocèle des Adultes.* Paris. 1873.)

The following are the conclusions given by the author of this work:—

1. Hydrocele is hydropsy of the tunica vaginalis. Like other hydropsies, it is not essential.
2. It is, in the majority of cases, symptomatic of chronic lesions of the spermatic gland.
3. These lesions are sometimes seated in the body of the testicle, but at the same time affect the epididymis. Very often the lesion is seated only in the epididymis, and is then localized to the tail of this structure.
4. This chronic epididymitis may follow an acute attack of inflammation, but most frequently is chronic from the commencement.
5. It is habitually produced by a centre of irritation near the prostatic region of the urethra.

6. The injuries to which has been attributed the chief part in the etiology of hydrocele are but accessory causes : they act not on the serous membrane, but on the epididymis.

ART. 192.—*Puncture of the Bladder above the Pubes.*

By JAMES I. LITTLE, M.D.

(*New York Medical Journal*, Nov. 1872.)

Dr. Little records a case of retention of urine from enlarged prostate in which he punctured the bladder fourteen times with a capillary aspirator. Subsequently a catheter could be introduced by the urethra. "No tenderness followed the punctures, and in a few days all traces of them had disappeared. The patient at last accounts was passing the greater portion of his urine without the catheter. No cystitis had taken place. During the time the aspirator was being used, he was free from all constitutional disturbance."

Dr. Little suggested the following rules for this operation :—

"1. The patient should lie on his back, and if the bladder is not much distended, the operation will be facilitated by slightly elevating the patient's hips by means of a pillow placed beneath them.

"2. The puncture should be made on or near the median line, from one inch to one inch and a half above the pubes, and should be made each time in a different place. In the case described, the punctures were about a line apart and extended over an area about half an inch in diameter. Mr. Watelet recommends the No. 2 capillary trocar, but in cases where cystitis exists and the urine is loaded with pus, mucus, or the phosphates, one of the larger trocars may be used with safety.

"3. The bladder may, when necessary, be washed out by filling the cylinder with water from the basin, and reversing the action of the instrument, without withdrawing the trocar from the bladder."

Another case of retention of urine from enlarged prostate is recorded (*Med. Record*, June 1, 1872) by Dr. H. K. Clark, of Geneva, in which six or seven punctures were made above the pubes with a trocar and canula *one-twelfth* of an inch in diameter. Each puncture was made without regard to the point of previous punctures, and the canula withdrawn as soon as the bladder was emptied. No unpleasant effect followed these operations.

ART. 193.—*A Case of Penetrating Wound of the Bladder.*¹

By M. PERRIN.

(*Gazette Médicale de Paris*, No. 49, 1872.)

A man, aged forty years, whilst endeavoring to put up some curtains fell and struck the overturned chair upon which he had been standing. The force with which he fell was so great that there was an actual empalement, one of the legs of the chair, which was broken off, penetrating the anus. The extraction of this large foreign body was immediately followed by a gush of urine.

For several days there was incontinence of urine and fecal matter. After the tenth day the patient passed urine by the urethra. "Towards the twenty-fifth day there was complete cicatrization of the wounded parts. Fifteen days later the patient had an attack of retention of urine, which lasted for five days, and was then completely relieved after the expulsion of a small piece of cloth, which had been torn from the trousers at the time of the accident.

¹ Communicated to the Société de Chirurgie, Paris.

ART. 194.—*Removal of a Gum Catheter from the Bladder.*

By WILLIAM STOKES, F.R.C.S.I.

(Irish Hospital Gazette, January.)

The author records a case in which he successfully performed Allarton's median operation for the removal of an entire gum catheter from the bladder. The chief points of interest of the case are the extreme difficulties that had to be overcome, owing to the narrowing of the urethra in two situations, the numerous false passages, and the great induration, thickening, and matting of the soft tissues in the perineum, and finally, showing that the vermicular action in the urethra is, contrary to the commonly received opinion, towards, and not from, the bladder.

The question as to the vermicular action of the urethra was the subject of discussion at the meeting of the Surgical Society of Ireland, Jan. 3d, 1873, and very contradictory opinions expressed. Prof. Macnamara stated that formerly he was of opinion that the vermicular action of the urethra was outwards and not inwards, but from the theory of cases of stricture he was led to entertain an opposite view. "Many years since his attention was drawn to the fact that if a catheter was fastened in the urethra, the tendency was to make its way towards the bladder and not to fall out. . . . He determined to make a practical application of the subject, and many years ago it became his practice when dealing with what he might call mixed strictures—partly organic and partly spasmodic—to pass a catgut bougie as far as he could towards the bladder, and fasten it there, and on coming back two hours afterwards he would be rather surprised if it had not travelled towards the bladder. He communicated these observations to his friends in the profession many years ago. One remarkable case occurred during the period when Mr. Stokes was his colleague in the Meath Hospital. Mr. Stokes had a case of rather difficult stricture to deal with. He advised him to introduce a catgut bougie and lodge it in the stricture, and assured him his experience was that in a couple of hours he would find that the catgut had travelled towards the bladder. Mr. Stokes replied that the teaching of the school was opposed to this. However, he followed out his suggestion, introduced the catgut bougie into the stricture, and in two or three hours afterwards he was much gratified to find it was lodged in the bladder. He (Prof. Macnamara) believed that the fact—that an instrument had a tendency to work inwards towards the bladder—could only be explained on the principle of vermicular action. No doubt the vermicular action was feeble, and in the 60th or 80th part of a square inch of the urethra its force would be almost infinitesimal; but when an instrument was introduced for some five or six inches the vermicular action was exercised over the whole of this length, and was sufficient to work the instrument on by degrees until it entered the bladder. . . He believed that this physiological fact was of great practical importance in the treatment of strictures. He was now in the habit whenever he met an old stricture, which some persons call 'impassable stricture,' of treating it with the catgut bougie, and this mode of treatment had been repeatedly followed by the most satisfactory results. Having lodged the catgut bougie in the stricture he left it there, and his experience was, on going back in two or three hours, even in spite of the catgut swelling, it had advanced towards the goal he wanted it to reach. The swelling did not occur in the case of the small gum-elastic catheter, which he also used. That instrument would gradually work down in the same manner; it had less resistance to encounter in the shape of swelling, but it afforded just the same surface for the vermicular action, and it would much more frequently reach the bladder than the catgut." Dr. Macnamara supposed this observation was original, but he had recently learned that Dr. Flemming had anticipated him, and placed similar facts on record in the *Dublin Hospital Gazette*, in 1858.

Prof. Morgan, Dr. Stapleton, Mr. Wharton, Mr. Richardson, and Dr. McDowell expressed their disbelief in the suction power of the bladder and the vermicular action of the urethra.

ART. 195.—*On Lithotripsy and Lithotomy.*

By F. H. HAMILTON, Professor of the Practice of Surgery, Bellevue Hospital Medical College.

(*Principles and Practice of Surgery*, pp. 943. New York. 1872.)

Respecting lithotripsy and lithotomy, it is stated in general:—

1. That lithotripsy is most easy of execution and most successful in women ; 2, in adult males, especially in those of middle life, whose urethræ and bladders are in a tolerably healthy condition ; 3, in cases where the stone is small, phosphatic, or brittle ; or, if we speak with reference to age alone, it may be said that lithotripsy is to be reserved especially for those examples of stone in which the age of the patient is over fifteen or seventeen years. While, on the other hand, lithotripsy is peculiarly difficult, and sometimes wholly inapplicable : 1, when the urethra is strictured or exquisitely irritable ; 2, when the bladder is very irritable, inflamed, ulcerated, contracted, hypertrophied, or sacculated, or when it is in a condition of extreme atony ; 3, when the prostate is much enlarged, as so often is found to be the case in old age ; 4, when a pretty large stone is associated with a narrow but healthy urethra, a condition which sometimes obtains in childhood and infancy ; 5, when the stone is of very great size, or very hard, or encysted ; 6, when there are a large number of calculi ; 7, when the kidneys are suffering from serious organic disease, or the general health is greatly impaired.

ART. 196.—*Observations on Lithotripsy and Lithotomy.*

By WILLIAM H. HINGSTON, M.D., Surgeon to the Hôtel Dieu, Montreal.

(*Canada Medical Record*, December, 1872.)

Dr. Hingston is of opinion that, in the adult :

- 1st. When the stone is small, we should crush.
- 2d. When however large, if friable, crush.
- 3d. When single, crush.
- 4th. When multiple, crush.
- 5th. When hard and large, whether single or multiple, we should cut.
- 6th. But that in all cases of children, whatever may be the size, or number, or constinence of the calculi, we should lithotomize.

ART. 197.—*On Renal Disease in Calculous Patients, and its Influence on the Choice of Operation.*¹

By SIR HENRY THOMPSON, M.B., Surgeon-Extraordinary to His Majesty the King of the Belgians ; Surgeon to University College Hospital, etc.

(*British Medical Journal*, March 8.)

The patient, a naval pensioner, aged sixty, thin and careworn, had suffered from symptoms of stone for more than three years. In the course of 1872 he had been admitted into a metropolitan hospital, when the stone was crushed several times. After this, the patient continued pretty comfortable for about three months ; he then rapidly relapsed, and, when he came under Sir Henry Thompson's care, the old man was in a most miserable condition. He could not hold his urine more than half an hour, even at night, and, as he could only pass it when in the erect position, he was obliged to leave his bed every time, and was greatly reduced by pain and want of sleep. This urine was alkaline, of low sp. gr., contained a large amount of albumen, and an unmistakable

¹ Abstract of a Clinical Lecture, delivered at University College Hospital, February 28th, 1873.

granular cast was found under the microscope at the first examination. On sounding him, fragments of phosphatic stone were detected. It was evident that the patient had advanced disease of the kidneys, and that his ultimate fate was settled; still his principal sufferings were due to the presence of the calculous matter in the bladder, and these could be removed or greatly relieved by lithotripsy.

He was accordingly admitted into the hospital on January 21st; the 24th, Sir Henry removed some débris, and repeated the process on the 28th without any unfavorable symptoms; on the contrary, the patient during this time improved in strength, could move about better, and was able to hold his urine for an hour or more at a time. All but a few fragments had in fact been removed when, on February 1st—a cold day—the patient slipped out of the ward and stood for some time in the yard of the hospital smoking. Next day he had a severe rigor, followed by headache, drowsiness, partial suppression of urine, etc., and, although at first he rallied somewhat under treatment, he never recovered the effects of his unfortunate indiscretion, and died on February 19th of uræmia.

Post-mortem Examination.—The external surface of the kidneys was granular; the capsules were opaque and adherent; on section, the cortical layer was thin, mottled with patches of yellow degeneration, and studded here and there with small abscesses; the pyramids were congested. The pelves of the kidneys and the ureters were dilated, and contained puriform matter. The muscular coat of the bladder was hypertrophied; the mucous membrane was much congested, dark, thickened, opaque, and ulcerated in places; the so-called “middle lobe” of the prostate was much enlarged, forming a regular bar across the neck of the bladder; in the deep hollow behind this were a few small and soft fragments of stone, weighing in all twelve grains.

In commenting on this case, Sir Henry Thompson said: “The question we have to consider to-day, gentlemen, is this—if stone in the bladder be complicated by the presence of chronic renal disease, what should be done? When are we justified in operating? and which operation should we choose? ‘Chronic renal disease’ is a wide term; and, in order to answer the question better, I will consider the chief forms of kidney disease separately.

“We may at once dispose of malignant disease: if this be so advanced that a satisfactory diagnosis is possible, any operation is clearly useless. Chronic Bright’s disease, again, is a loose term, and includes several varieties; the two that chiefly concern us now are the large white smooth kidney, and the granular contracted kidney; the so-called amyloid disease is rare. There is no difficulty in the diagnosis of Bright’s disease, even when complicated by the presence of stone; the low specific gravity of the urine, the presence of casts and of an amount of albumen out of proportion to the amount of pus present decide the nature of the case at once. Next, there is what may be called the calculous kidney. You will often meet with men who are frequently, or almost continuously, passing crystals of uric acid or small calculi. This never goes on for any length of time without damage to the kidney; on microscopic examination, you will always find blood in the urine. They are often stout, red-faced, healthy-looking rustics; but if such a man come to you with a stone in his bladder and tells you that he has been accustomed to pass gravel for years, beware of him; in spite of his apparent good health, he will be unusually liable to severe rigors and urinary fever.

“Next, saccharine diabetes is occasionally associated with stone. I have met with two such cases, and never had any more troublesome: there was in both very great irritability of the bladder and of the system generally; and if you should meet with the same complication, the case will probably require all the care and patience you can muster.

“Lastly, there is that dilated condition of the kidney and the ureters which is due to long-standing obstruction in the passages. This has been sometimes called ‘surgical kidney,’ a most inappropriate and unphilosophical term, and one which I never use. So far from being really a ‘surgical’ kidney, it is one which denotes the want of surgical treatment; one which never would have existed had surgical aid been afforded at the outset of the malady. This con-

dition is most frequently met with in cases of old stricture, also in cases of enlarged prostate, large calculus, long-continued atony of the bladder, etc. Owing, then, to the presence of some obstruction to the escape of urine from the bladder, that organ becomes dilated and hypertrophied, the pressure tells backwards on the ureters, these and the pelves of the kidneys become dilated, the secreting substance itself is compressed against the capsule, and finally, the whole organ may be distended into a sort of cyst. I have seen the ureters as large as the small intestine, and contain, with the pelves of the kidneys, thirty fluidounces of water. A calculus by itself never produces this effect unless it be large, and not necessarily even then; it depends on the amount of obstruction. And now comes an important fact, viz., that all this may occur without any distinct symptoms; you may suspect that this state of things is present, but you cannot make absolutely sure. The patient probably has some cystitis, and consequently pus in his urine, but there is no more albumen present than the pus would account for; there are no casts; the urine may be of fair specific gravity, and there will even be no deficiency of urea; if there be, the patient will at once show symptoms. The fact is, that we are liberally provided with secreting and excreting organs. A man may live very comfortably, even though a considerable proportion of both lungs be blocked up with tubercle; two half lungs are sufficient under ordinary circumstances; but if he get a little bronchitis—an amount which a healthy man would scarcely feel—it carries him off; he has just enough breathing space to sustain life, but no margin to spare. Just so a man may live with two half kidneys; he gets along quite well under ordinary circumstances; there is just enough of the organs left to meet the wants of the system, but any small derangement upsets the balance, and serious symptoms appear at once.

"A high authority abroad has stated that this state of the kidneys can be diagnosed by means of palpation, but I cannot confirm his assertion. It would be exceedingly difficult to detect with certainty a soft, movable, and collapsible tube like the ureter even in a thin person; but generally these patients are past middle life, and stout also from confinement; the parts are not sensitive, unless suppuration or a renal calculus be present. You may often be able to make a shrewd guess; but even a strong suspicion is not a sufficient ground for refusing to relieve a suffering patient.

"In the next place, to what extent does the presence of renal disease affect the prognosis of lithotripsy? Omitting slight cases, I have operated on three patients who were suffering from *advanced* chronic Bright's disease. The first was some years ago. A very pale, weak, and puffy-looking man, with a large phosphatic stone, came to me to be operated on, but I refused; he, however, begged so hard that I would do something for him, and was in so much pain and distress, that at last I took him in. Even then I kept him three weeks under observation before I did anything, which is not my usual custom. I then crushed the stone very carefully in eight sittings, allowing a good interval between them. The man was in the hospital three months—three times as long as most of my patients—but he went out freed from his trouble, and died of the kidney-disease nine months afterwards without any recurrence of the calculus.

"Some time afterwards, I operated on a second and similar case. He had some rigors, but went out at the end of ten weeks cured of his stone; he came to show himself three months afterwards, when he had still a large amount of albumen in his urine, but no recurrence of the stone. Emboldened, perhaps, by success, I attempted a third and worse case shortly afterwards. This patient went on well for a time, but after the fifth sitting uræmic symptoms supervened, and he died.

"I cannot tell how many cases of mechanical dilatation of the kidney I may have operated on with success; for, as I said, I know no means of ascertaining with certainty during life the existence of the disease; but I have little doubt that there has been more or less distension of the ureters, etc., in a considerable number of the more severe cases. I may instance particularly three cases of stone complicated by very tight and old-standing stricture. My plan under such circumstances is to tie in catheters for a week, or until I can in-

troduce a small lithotrite; after each crushing I replace the catheters, and continue them until the stone is removed. I have not the smallest doubt, judging from the history and state of these patients, that all had some, perhaps a considerable amount of disease; yet in each case the result was successful.

"Surgeons have said that, if a patient with stone in the bladder have also chronic disease of the kidneys, the best plan is to cut him; to have one operation and have done with it, and not to go on teasing the man with instruments for several weeks. I can only say that lithotomy would certainly have killed any one of the three pale, feeble, bloodless patients I first mentioned; indeed, no one of the six could have been cut—no surgeon would have thought of it. It is just fifty years since lithotripsy was first introduced, and up to thirty years ago, or less, this dictum was true, but it is not so now. The statistics of lithotomy were never better than they were fifty years ago; indeed they are now scarcely as good, for since then many of the most favorable cases have been treated by crushing. The statistics of lithotripsy, on the other hand, have improved, and are improving every year. Lithotomy, then, has stood still; lithotripsy has been greatly improved, and the axiom is consequently now reversed. There is no doubt with our present experience that, if only the stone is sufficiently friable, lithotripsy, *if skilfully performed*, is the best operation in such cases: the shock, loss of blood, etc., of lithotomy make considerable demands on the strength of the patient. The lithotripsy must, I repeat, be very carefully done; of the two operations, that of crushing is certainly the one in which previous practice on the part of the operator makes the greater difference in the chance of curing the patient. Therefore, I say to you, inasmuch as you may be well able to do a good bold operation of lithotomy at the outset of your career if you have surgical talent at all, do so with any doubtful case, or if the stone be at all large, until you have had a little experience with two or three cases of small stones by lithotripsy. Whatever you do by that means, let your early attempts be always made on small calculi only.

"In conclusion, I may repeat the advice which I am constantly giving you. Always find the stone, if possible, when small; the symptoms produced by stone, say of the size of a nut, are clear enough. There is no question, then, about the advisability of cutting or crushing, or about the presence or absence of kidney disease; crush the stone at once, and the cure of the patient is almost certain."

ART. 198.—*Tubercular Disease of the Left Testis and Left Vesicula Seminalis and Vas Deferens.*

Under the care of Mr. RIVINGTON, at the London Hospital.

(*The Lancet*, December 4.)

In his work on the Testis (p. 320), Mr. Curling states that M. Gosselin has often detected by digital examination in the rectum an affection of the vesiculæ seminales and prostate in cases of tubercular disease of the testicle. That M. Gosselin's assertion is correct there can be little doubt, and the following case shows that disease of the vesiculæ may be readily detected by rectal examination. In many cases occurring in English practice it has not been found because it has not been looked for.

Charles U—, aged twenty, was admitted into the London Hospital on the 13th February, 1872, with tubercular disease of the left testis. The disease began two years previously with smarting pain in the urethra. Six months before admission he noticed a discharge of yellowish slime (gonorrhœa?), which lasted about a month. At times the urethra was hot and inflamed. Eighteen months ago his testicle swelled, and a sinus formed, which discharged matter and then healed, leaving a small scar. There or four hard lumps were perceptible along the epididymis, but there were no enlarged glands in the groin. On examining the patient per rectum, Mr. Rivington noticed a hardness in the prostate on the left side, and proceeding backwards from the prostate on the left side, a hard cord-like body similar to a thickened vas deferens, and a more

lobulated body outside this, such as would be produced by enlargement of the vesicula seminalis. On the right side the vesicula seminalis could just be discriminated, the contrast between the two sides being very marked. Mr. Curling examined the patient a month afterwards, and corroborated the opinion formed, the vesicula seminalis and vas deferens were affected and thickened, probably from the presence of tubercle. There was no pain in the testicle, nor had it increased in size lately. The cord on the same side was natural as far as the inguinal canal.

It may be noted that the patient had had hip-joint disease on the left side eight years ago. The left hip-joint was ankylosed, and an old scar of a healed sinus remained six inches below the trochanter major. The left leg was shortened two inches, one inch being due to the femur, and one inch to the defective growth of the tibia and fibula.

The patient was ordered cod-liver oil and steel, with injections of a mildly astringent character to check the urethral discharge. It was considered inadvisable to excise the organ.

ART. 199.—*The Application of Nitrate of Silver as a Cause of Stricture of the Urethra.*

By CHARLES OWEN ASPRAY, F.R.C.S., Senior Surgeon to St. George's and St. James's Dispensary, etc.

(*Medical Press and Circular*, December 18, 1872.)

In every case of stricture which comes under the author's notice, he is in the habit of trying to come to a definite conclusion as to the cause of the complaint. He believes that the treatment of urethritis by injection is the best method in the majority of cases, and that it will never produce stricture if the solution employed be weak enough at first, and the patient be properly instructed as to the mode of using. It appears to him a rather significant fact, that the nitrate of silver has always been the medicament used, either in a solid form, or in solution, in those rare cases where he could venture to put down a particular local application as the cause of the complaint. This is not so much to be wondered at, if we consider that the effect of a nitrate of silver injection upon the healthy subject is to produce ardor urinæ, and a thick yellow discharge—i. e., acute urethritis. The first case in which Mr. Aspray discovered this cause was that of a gentleman, who had been unnecessarily cauterized for emissions nearly twenty years previously; the stricture would not at first admit a No. 1 bougie; he had never had gonorrhœa. The other cases are not quite so clearly traced, because the individuals had suffered from gonorrhœa; in one, the patient had used a strong solution of salt on his own account, which produced retention immediately, and after this was relieved, he had symptoms of stricture, which he had never noticed before. Mr. Aspray never uses this salt in the treatment of urethral complaints, for he thinks it is one we can very well do without. He does not know any treatment of gonorrhœa more likely to produce stricture than what is called the abortive, and added to this, it rarely cures the disease.

ART. 200.—*On Circumcision for the Treatment of Syphilitic Affections of the Prepuce and Glans Penis.*

By Professor VON SIGMUND.

(*Wiener Medizinische Wochenschrift*, 21, 22, 1871; *Schmidt's Jahrbücher*, No. 11, 1872.)

Partial or complete removal of the prepuce in syphilitic affections of the prepuce and glans penis ought, according to the author, to be much more frequently performed than it is at the present day. Papules and larger infiltrations, when situated on the foreskin often hinder cicatrization for years, and not unfrequently

induce contraction of the prepuce and its serious consequences. Cleanliness cannot be properly attended to, and fresh infection may readily occur.

The treatment of most affections of the glans penis and prepuce generally fails in consequence of the well-known difficulties in keeping the parts clean, and in retaining dressings. As the patient most frequently is obliged to follow his occupations, complications of different kinds are added as causes of failure, and self-infection may readily take place. In addition, when there is phimosis, the medical attendant will have some difficulty in making a diagnosis, in consequence of the impossibility of an ocular inspection. For patients who, on account of this disease, desire admission into an hospital, a long sojourn during the treatment of tardily cicatrizing affections is not to be approved. The nutritive functions of many patients are disturbed by hospital influences, and not a few run the risk of contracting other diseases.

In contraction of the prepuce with difficulty in diagnosing its cause, the operation is never attended with harm; after incision of the foreskin, the cause of the contraction may be recognized, and the further steps of the operation may then be taken into consideration, the precise method of operation depending upon the condition that is found. If the whole or a greater part of the prepuce be occupied by indurations, erosions, papules, and ulcers, the removal of the whole structure is indicated, as also when its middle and posterior portions, and the frænum are the seats of disease. If the disease be limited to the edge or to the anterior portion of the prepuce, and when the inner layer is sufficiently large and movable, removal of the anterior half of the prepuce is sufficient. One should retain as much as possible of the outer layer, and avoid sparing the but slightly stretched inner layer. Ulcers should be cauterized with a saturated solution of sulphate of copper. After bringing together the margins of the wound as closely as possible, some cotton-wool should be applied. After the removal of the dressing on the second or third day, complete union may not unfrequently be found. Complete cicatrization may be prevented by remaining infiltrations, by gangrenous or diphtheritic destruction, by defective treatment of the wound, and in consequence of a bad constitution. When there is serous swelling of the prepuce, with acute lymphangitis on the dorsum of the penis, the operation must be delayed. On the other hand, the performance of the operation is not contraindicated by acute inflammation of the inguinal glands or by a methodical inunction treatment.

ART. 201.—Case of Priapism lasting Six Weeks; Recovery.

Under the care of MR. HIRD, at Charing Cross Hospital.

(*The Lancet*, January 18.)

Persistent priapism is sometimes met with in cases of disease or injury of the spinal cord or cerebellum, but apart from morbid conditions of these organs it is exceedingly rare. By some it is considered to be the result of the extravasation of blood; by others to be due to nervous reflex irritation. The effect of treatment seems to indicate the latter as being more correct; for incisions into the penis, to let out the extravasated blood, have not been productive of any good result, whereas the administration of bromide of potassium has, in several instances, been followed by relief and gradual subsidence of the symptoms.

For the notes of the following case we are indebted to Dr. Mitchell Bruce:—

C. C—, aged fifty-five, an Irishman, and a porter at Covent Garden, was admitted into hospital on September 28, 1872. The patient, according to his own account, had been a healthy man, with the single exception that three years ago he suffered from priapism for three or four days, the affection coming on suddenly in the daytime, and gradually passing off. The priapism was accompanied by severe pain in the penis, but by no symptom in the back, legs, bladder, or bowels. Since the time indicated the patient had not suffered from any such disease in any degree until the present. The patient was confessedly a drunkard; every day, or every second day, he was drunk upon rum; he never

had less than four quarters a day. He also stated that he had neither lately nor at any time been given to sexual excess. On September 23d, about four A. M., the patient awoke to find his penis erect and painful, after no provocation whatever; and this condition continued up to his admission.

On being admitted, the patient was found to be suffering from well-marked priapism, with constant pain in the penis. The organ was very tender, but there was no redness at any spot on it, or in the neighborhood, nor was there any distortion or want of uniformity in the considerable and general unnatural enlargement. The patient lay on his back, with his knees drawn up, to prevent the contact of the bedclothes. The pain in the penis prevented sleep. There was no pain in the back, no pain or other abnormal symptom in the legs; micturition was attended with little or no discomfort; the bowels were somewhat constipated. Ordered a purgative and hot fomentations to the penis.

September 30th.—Condition unchanged. To take ten drops of tincture of belladonna every six hours, and ten drops of antimonial wine in an ounce of white mixture three times a day.

October 3d.—No alteration; no sleep has been obtained. To have at once five grains of calomel and six grains of compound extract of colocynth, and a pill containing five grains of camphor every night.

7th.—No change. The purgative pill did not act much. Ordered twenty grains of bromide of potassium three times a day.

8th.—Repeat the calomel pill.

9th.—Condition the same as above. To take at night fifteen drops of tincture of belladonna in an ounce of camphor mixture.

10th.—Still sleeps badly; no diminution of the priapism. To have a draught containing twenty grains of chloral hydrate at bedtime. A small quantity of extract of belladonna to be rubbed into the skin of the perineum.

19th.—Symptoms still the same. The patient was seen to-day by Mr. Hancock and Dr. Headland. Ordered to have an eight-grain compound aloes pill at once; and to take one-eighth of a grain of tartarized antimony and a drachm of the solution of acetate of ammonia in an ounce of camphor mixture every four hours.

22d.—Condition unaltered. To have five grains of iodide of potassium three times a day (this was not administered until the 29th).

25th.—The patient is conscious of some relaxation of the erect feeling, and the pain is less.

29th.—Both the priapism and the pain have nearly disappeared. The patient wishes to sit up. The appetite is good, as it has been throughout the disease.

30th.—Last evening, about nine o'clock, half an hour after taking the five-grain dose of iodide of potassium, the patient was seized with all the symptoms of extremely marked iodism. He did not sleep during the night. This morning the symptoms are still present, but evidently subsiding. There is no salivation nor eruption on the skin. Pulse 68, regular, and small. The penis is no longer erect, but although flapped over upon the thigh it is quite firm to the touch. It is free from pain.

November 1st.—The symptoms of iodism have perfectly subsided.

4th.—Penis still abnormally stiff, with slight pain at the point, and tenderness. The patient volunteers the statement that he has "rubbed the point," but could induce no erection by the experiment.

6th.—Condition improving; relaxation not quite complete.

8th.—The patient is out of bed; there is still stiffness of the penis; no erection has occurred.

11th.—The penis is perfectly lax; no erection. The patient was discharged to-day cured.

It must be added that on one occasion, the date of which was not recorded, the patient was put under the influence of chloroform without effect upon the priapism.

ART. 202.—*A Modification of the Operation for Phimosis.*

By HARRISON ALLEN, M.D.

(Philadelphia Medical Times, No. 46, 1872.)

The modification proposed by Dr. Allen is based upon the truth of the following statements: 1. The glans penis lies obliquely backwards to the longitudinal axis of the penis. 2. Contraction of the preputial orifice, from chancres, scars, or other rarer conditions, may create phimosis independently of other causes, but, as a rule, acquired phimosis, particularly if it be complicated with venereal disease, is due to inflammatory thickening of the entire mucous layer. In such cases the glans is compressed, as with a rind, by a stiff inelastic membrane. If there be much narrowing of the preputial chamber, the penis is jammed backwards in its sheath, and its frenum is made tense from a fixed point below, and lies obliquely upwards and backwards.

Writers have cautioned us, in selecting the method of Ricord, not to be guided by the outline of the glans penis as defined through the integument, else too much of the latter may be excised. But even when the operation is properly performed, the incision imperfectly exposes the glans, thus making another incision through the mucous layer necessary. Besides this, the frenum is liable to mutilation by the first cut. This latter is an awkward occurrence, since union, under the best of circumstances, lingers about the frenum, and an undesirable bagginess of the integument at this point too often remains.

Thus briefly indicates Dr. Allen that the essential points of an operation for phimosis should be those that secure integrity of the frenum as well as exemption from too free incision of the skin-layer of the prepuce.

The method of meeting these points is simple. Having first slit up the prepuce upon a grooved director—thus permitting the penis to assume its normal position to the sheath, and the true relations between it and the foreskin to be accurately determined—the operator takes a straight needle, of moderate size, and arming it with a single strand of well-annealed silver wire, transfixes both layers of the foreskin about a fourth of an inch in advance of the corona. Before pushing the needle through, that portion of the foreskin in front of the needle is snipped off with the scissors—sufficient tissue being reserved to bring the edges together—when a twisted suture is effected. The needle is next inserted at a point midway to the frenum, and the same procedure repeated as in the first instance. In consequence of the redundancy of the skin about the frenum, the division of the mucous layer is best effected at that point before that of the skin. The scalpel is better than the scissors for this purpose. The skin should be removed by the latter instrument after transfixion. Two sutures introduced upon the opposite side, in the manner already given, complete the operation. Should the spaces between the wires gape, they may be approximated by silk threads. These may be removed within twenty-four hours. The silver wires should be retained a day longer.

It will at once be seen that the retraction of the skin-layer is prevented by transfixing the two layers at the same point before the removal of the integument. This, indeed, is the gist of the whole matter. The slitting of the prepuce, instead of being a mere expedient to remove pressure from a threatened glans, or to explore for a concealed chancre—uses to which it is commonly restricted—becomes a stage of the operation of circumcision. Moreover, it enables the operator to dispense with the use of the fenestrated forceps.

This operation has been performed by Dr. Allen and others fourteen times, and has given entire satisfaction in every instance.

ART. 203.—*On Paraphimosis.*

By M. CHARLES MAURIAC.

(Mémoire sur le Paraphimosis. Paris, 1873.)

1. In all cases of paraphimosis not complicated by simple chancres one ought always to attempt reduction, whatever be the degree and the stage of the affection.

2. Loosening produced by means of a long median and superior incision is indicated only in those cases of paraphimosis where the contraction coincides with shortness of the prepuce.

3. When paraphimosis is complicated by auto-inoculable chancres, it is necessary to abstain rigorously from any operation with a cutting instrument. If reduction is possible, it should not be practised until the virulence of the ulcers has been destroyed with active caustics, such as chloride of zinc, etc.

4. Gonorrhœa, primary syphilitic ulcers, simple balano-posthitis, and mucous patches do not contra-indicate either reduction or operations with a cutting instrument.

5. If reduction be rendered impossible by adhesions, gangrene, phlegmonous inflammation of the prepuce and corona, phlebitis, abscess, etc., it is necessary to leave the paraphimosis to take its natural course, care being taken in all instances by the use of appropriate means to subdue complications and to hasten resolution of the preputial swelling and cicatrization of the solution of continuity produced by the strangulation.

6. Expectation is formally indicated in cases of irreducible phimosis complicated with chancres until the healing of these latter lesions.

7. Paraphimosis when not reduced always leaves after it a subpreputial tumor constituted by hypertrophy and chronic œdema of the inferior half of the prepuce.

8. It is necessary to remove this tumor by means of an inferior demi-circumcision in order to complete the superior demi-circumcision produced by ulceration of the strangulated part.

9. Complete circumcision performed behind the glans in cases of irreducible paraphimosis can be practised only in cases where the prepuce is very long. It ought not to be done save during the period of resolution, and when the ulceration of the strangulated portion has produced an insufficient superior demi-circumcision.

ART. 204.—*Coincidences in Suspected Strangulated Hernia.*

By C. F. MAUNDER, F.R.C.S. Eng. (Exam.), Surgeon to the London Hospital.

(Medical Times and Gazette, May 24.)

It is a good rule in the surgery of hernia, when symptoms of strangulation exist which cannot be positively explained or ascribed to other causes, to explore either a hernia of a doubtful nature or a hernial region. Mr. Maunder has probably operated on a hundred cases of strangulated hernia, and the two following coincidences, recently under observation, are worthy of record, as being previously unknown to him, and possibly to others also.

"CASE 1.—A male, seventy years of age, the subject for many years of reducible scrotal hernia of the left side, suddenly experiences pain in the left groin and while the hernia is down. By manipulation reduction is effected, and vomiting sets in, and persists for many hours up to the moment of my seeing him. He is now pale and exhausted. The evidences of old hernia at the groin, short of the protrusion itself, are ample, and the finger finds nothing unusual in the inguinal canal. On putting the patient erect nothing protruded even when he coughed. Suspecting either *reductio en masse* or ruptured neck of sac and false reduction, exploration of the region was practised. Nothing

explanatory of the symptoms was found, but the finger in the cavity of the belly detected a rounded swelling behind the hypogastric region, but not coming forward to the anterior abdominal wall as the distended bladder does. A catheter introduced proved that the swelling was not bladder. It then occurred to me that the tumor might be a hydatid cyst, I having on a former occasion tapped per rectum such a cyst, which, developed in the pelvis, caused retention of urine. On making a digital examination per rectum, I failed to discover the swelling, and withheld the trocar, and, as the sequel will show, fortunately so too. The patient died, and at a post-mortem examination he was found to be the subject of a ruptured aneurism. The hernial protrusion had been reduced by taxis, and the same moment a quantity of blood had been poured out behind the peritoneum, filling the iliac fossa and part of pelvis, and, coming forward to the anterior abdominal wall, had prevented the redescend of bowel. Strangulation had never existed.

"CASE II.—A few days ago (May 6th), I saw in consultation a male, between sixty and seventy years of age, who six days previously had rather suddenly experienced great discomfort in the right groin, the seat of an old rupture. He took aperient medicine, which apparently opened the bowels very freely. Forty hours before I saw him he had called in a medical man, vomiting having now set in and a second aperient having failed to promote alvine evacuation. A hernia protruding at the right inguinal ring was now found by the medical attendant, and reduced by him without force. Vomiting persisted, and the ejecta probably came from the lower part of the small intestine. I was now summoned, and as we proceeded to the residence of the patient the possibility of cæcitis with the hernia as a coincidence was suggested. The abdomen was somewhat distended and tense, and pain and tenderness were referred to the region of the hernia, which latter was just appreciable at an enlarged external inguinal ring. When the patient was placed erect, the swelling was scarcely more prominent. It was agreed to explore this swelling. On dividing the structures over the swelling, a mass of fat was soon reached (as is often the case in femoral hernia), and was at once isolated by the finger except in one direction—backwards through the posterior wall of the inguinal canal. I now carefully laid open the free end of the swelling, and passed my finger into a cavity lined by peritoneum, and then on through a very narrow mouth into the cavity of the abdomen. On withdrawing the finger it was smeared with a little dirty-looking pus from the cavity of the peritoneum, and the intestines in the right iliac region felt to be matted together. So far as I am aware, this is the first instance in which I have operated on a *direct* inguinal hernia. To-day (May 11th) I hear from Dr. Gillies that the patient is doing well, that vomiting persisted for twenty-four hours after the operation, and the wound healed by primary union."

While on the subject of hernia, Mr. Maunier draws attention to a subject not sufficiently ventilated—the danger of administering opium or morphia in cases of strangulation unless it is understood that the rupture must either be reduced or be explored after the lapse of a few hours only. Quite recently (May 13th) he saw in consultation a patient sixty-seven years of age, the subject of a strangulated femoral hernia, who had vomited. On two consecutive nights a quarter of a grain of morphia had been administered, with the effect of checking vomiting and of allowing the stomach to tolerate small quantities of nourishment. An incision exposed a large knuckle of bowel highly congested, roughened by lymph, and tightly constricted. The sac contained a good quantity of dirty sanguineous fluid.

ART. 205.—*The Comparative Merits of Craniotomy and the Cæsarean Section in Pelves with a conjugate diameter of two and a half inches.*

By JOHN S. PARRY, M.D.

(*American Journal of Obstetrics*, February.)

Dr. Parry discusses this question, and gives the following as his conclusions:—

1. If gestation has advanced to the full term and the conjugate diameter of the superior strait be two inches and a half, craniotomy affords the mother no better chance of recovery than Cæsarean section; and if the diameter be two inches or less, exclusive of the soft parts, it is the duty of the accoucheur to perform the gastro-hysterotomy rather than craniotomy.

2. The recorded histories of cephalotripsy in such cases afford us no evidence that it will compete with the Cæsarean section in safety, while French and German experience seems to show that cranioclasm is both more safe and efficient.

3. English accoucheurs, who are the firmest supporters of cephalotripsy, have not yet recorded a sufficient number of facts to controvert this position.

ART. 206.—*On Spasm of the Sphincter Ani.*

By Dr. A. J. AMNÉUS.

(*Upsala läkarefören förhandl.* vii., 1872; *Schmidt's Jahrbücher*, No. 12, 1872.)

The terms *fissura ani* and *contractio ani*, commonly applied to this affection, are rejected by the author; in the first place, because fissure may occur without spasmodic contraction, and contraction without lesion of the mucous membrane; and in the second place, because with the term contraction one associates the idea of persistent muscular action, as occurs in the neighborhood of diseased joints, while spasm of the sphincter ani is only a temporary condition. The author adopts spasm of the sphincter ani as the proper designation of this lesion, since by the term spasm one implies a temporary spasmodic contraction, the cause of which lies not in the muscle itself, but in the nerves proceeding to the muscle.

A spasmodic condition of the sphincter ani may result not only from irritation of the nerves which pass directly to this muscle, but also through reflex action from irritation of neighboring nerves proceeding from the same trunk. Spasmodic conditions of the bladder and of the genital system may bring about spasmodic contraction of the sphincter ani, and the latter condition, also, may react on the bladder and genital system, so that what in one case is the cause of the affection, may in another case be its result. The fact of the greater frequency of spasmus ani in women is explained by the greater frequency of affections of the genital organs in the female than in the male sex. Abnormal position of the womb in the majority of cases causes intense contraction of the muscle, which frequently disappears without any other treatment after the replacing of the organ. A common cause of the affection is tardy evacuation of the bowels and the prolonged presence of fecal masses in the intestine; intelligent patients reported to the author that the spasm had come on after they had noticed delay and difficulty in defecation. Even after the defecation hard lumps of fecal matter may be left in the dilatation of the rectum above the sphincter, and there set up mechanical irritation of the muscle. Even the mechanical distension caused by the simple passage of a large quantity of hard excrement may suffice, without causing any injury of the mucous membrane or giving rise to considerable pain, to excite indirectly spasmodic muscular contractions. Fecal causes of irritation, such as worms, ulcers, mucous tubercles, and other affections of the mucous membrane, may act in a similar manner. Probably even the quality of the feces themselves may influence the condition

of the intestinal mucous membrane; according to the author, the tenesmus of dysentery is to be explained by the local irritation and by the spasmodic contractions of the active and passive muscles of defecation thus excited. A special group of causes is formed by such conditions as lead to dilatation and obstruction of the pelvic veins. Dr. Arnéus has observed but one undoubted case of this kind, but still thinks it very probable that spasm of the sphincter is often due to one of this class of causes.

The symptoms of a spasmodic contraction of the sphincter ani are mostly of a subjective nature. The patient experiences a sensation of obstruction in the rectum during defecation, and sometimes during this act very severe pain, the intensity of which is in proportion to the degree of the lesion and the hardness and amount of the excrement. In some cases pain is absent, and the patient complains only of difficulty in passing the stools. Pain, when present, is but slight at the commencement of the affection, and afterwards increases more and more, though irregularly and not continuously; it is so peculiar that, in association with the sensation of a mechanical obstruction, it suffices for the determination of the diagnosis. In some cases in which Dr. Arnéus, notwithstanding the presence of those two symptoms, could not find any objective holding-point for determining the presence of the affection, he discovered a retroversion of an enlarged uterus, through which the calibre of a portion of the intestinal canal was encroached upon; the excrement pressed upon the fundus uteri, and probably through the contraction of the calibre of the intestine spasm of the sphincter was excited at each attempt at defecation; after elevation of the retroverted uterus the difficulties attending defecation were removed. The single objective symptom in spasm of the sphincter ani, and one which suffices for establishing the diagnosis, is contraction of the muscles when the finger is introduced for the purpose of exploring the rectum; this contraction is excited in some very well-marked cases by simple pressure on the outer coverings of the muscle; the force of this contraction stands in direct relation to the degree of the lesion.

The affection, according to the experience of Dr. Arnéus, occurs very frequently, and much more so than is generally supposed; it often escapes observation however, especially when it is slight. The prognosis is good and the treatment generally successful. The lesion, even when far advanced, often disappears spontaneously, or after the removal of its cause. In most cases, however, a special treatment is required. According to the experience of Dr. Arnéus, fomentations, salves, and caustics are of little use, and purgatives have only a purgative action; the essential proceeding in the treatment is an operative one—viz., forcible dilatation. This operation is a very slight and satisfactory one, and requires neither special preparation nor much after-treatment, and is not attended with so much pain as is the process of defecation in cases of advanced and severe spasm of the sphincter ani. Dr. Arnéus has practiced the operation very frequently, and in one case only where the affection was complicated with hemorrhoids, was it necessary to use an anæsthetic. The performance of the operation is always successful when it has been done with sufficient force, it lasts but for a few seconds, and almost always removes the affection once and forever. The dilatation is produced by the index fingers, which are introduced into the anus with the dorsal surfaces in contact. The anus is then dilated by separating the fingers, and some laceration of the sphincter muscle is produced. A wholly sufficient amount of dilatation for an adult is produced by separating the fingers from each other to the extent of an inch and a half. Sometimes during the operation a considerable extent of mucous membrane is injured, but no disadvantage arises from this. Sometimes it may seem as if the mucous membrane would undergo prolapse between the fingers; it does not do so, however, but is retracted after the operation. After the removal of the fingers from the rectum the anus frequently remains patent, a condition owing to complete, or to almost complete, relaxation of the sphincter. Partial relaxation is sufficient in most cases for a successful result of the operation, but as it is difficult to determine when a sufficient amount of relaxation has been attained, Dr. Arnéus recommends the surgeon to aim at complete relaxation, especially as this does not give rise to any kind of harm. The only

difficulty attending the operation, and one which frequently occurs, is due to a rapidly shrinking movement on the part of the patient, through which the fingers lose their hold.

This affection is seldom without complications. First among the results of spasm of the sphincter ani is accumulation of fecal masses above the superior sphincter, which leads to habitual constipation, and is favored by the unwillingness of the patient to go to stool in consequence of the pain resulting from this act. The collected fecal masses, if they remain for a long time in the intestine, may act as both mechanical and chemical irritants upon the mucous membrane, and in this way set up intestinal catarrh. Where there is much resistance in the sphincter and the peristaltic action of the intestine is weak, the accumulation of fecal material may extend upwards, and the catarrh thus involve a considerable portion of the intestinal canal, become more intense, and lead to inflammatory conditions. With long continuance of these morbid conditions the whole digestive tract, and even the whole organism, may become sympathetically affected. Not unfrequently gastric catarrh and ulceration and general impairment of nutrition may be produced in this way. When the excrement, forced below the superior sphincter, fills and distends the rectum, as often happens, the enlarged rectum may press upon neighboring organs, causing in women displacements of the womb, and interfering in man with the bladder and prostate. Dr. Arnéus seeks to explain by this pressure the facts that retroversion of the womb occurs more frequently than anteversion, and that vesical catarrh occurs more frequently in men than in women. Through pressure upon the vessels and nerves of the pelvis disturbance may be produced which may give rise to sympathetic affections of remote parts, and even of the whole organism; the action of such fecal accumulations in the rectum on the circulation of the blood is well known, and may lead directly to the most serious consequences and act upon remote organs.

The local changes which may be induced through spasm of the sphincter ani consist in prolapse of the rectal mucous membrane and in hemorrhoids. Prolapse of the mucous membrane of the rectum does not take place before the spasm has attained some degree of intensity; it does not come on suddenly, but is gradually developed; small portions protrude for a time and then retract; these protrusive portions increase more and more in size until the prolapse can no longer be spontaneously retracted. When this is the case, the prolapsed mucous membrane is constantly compressed by the sphincter, the spasmodic contraction of which, as a result of persistent irritation, is also persistent; consequently the circulation of blood in the prolapsed portion is obstructed and there are produced venous stasis, pains, and hemorrhoids, which last affection Dr. Arnéus regards as being nothing more than a certain form of prolapsus ani, in which the most important and prominent symptom is not protrusion, but swelling of the mucous membrane. What one generally indicates as hemorrhoids is but the protrusion of but a small portion of mucous membrane, whilst the annular protrusion goes by the name of prolapse. The fact that both the prolapsus ani and the hemorrhoids are cured after the removal of the spasm by forcible dilatation, is regarded by Dr. Arnéus as a practical proof of the correctness of this view.

ART. 207.—On Artificial Dilatation of the Anus and Rectum with regard to the Exploration of, and Operations on, these Organs.

By Professor G. SIMON.

(*Langenbeck's Archiv*, Bd. xv. Heft 1, 1872; *Gazette Hebdomadaire*, No. 1, 1873.)

For a long time surgeons in exploring the anus and rectum have been content with introducing the index finger, or at the most two fingers. They have also used the bivalve speculum, which permits a more complete exploration, and facilitates operations on the rectum. Professor Simon has recently demonstrated that other and more important exploratory results may be obtained, and that

the whole hand may be introduced into the rectum, and instruments be worked in this region, without producing in the structure of the walls those changes that are associated with forcible dilatation.

There are, Professor Simon states, two methods of dilating the anus and rectum—the sanguinary and the non-sanguinary.

In the non-sanguinary method the dilatation is performed during chloroformic anæsthesia, and it is remarkable to what extent the anus may be dilated whilst the patient is in this condition. It may be accomplished with the fingers, half the hand, and finally the whole hand. Provided there be no contraction of the pelvis, the whole hand and part of the forearm may be introduced. In most cases the hand, the circumference of which amounts to about twenty-five centimetres, produces in its introduction a small laceration of the anus, and in some exceptional cases it is necessary to make a small incision of the anus, in order to introduce the whole hand. When the hand has penetrated into the rectum as far as the sacral promontory, one may with three or four fingers penetrate as far as the sigmoid flexure, and be enabled, owing to the mobility of the rectum, to feel through its walls, the abdominal region as far as the kidneys and the umbilical region, this exploration being free from danger.

One may by this means explore a part of the abdominal cavity, and consequently obtain valuable diagnostic indications in affections of the uterus, ovaries, and even the stomach and spleen. With the introduction of four fingers, that is to say, with half the hand, one may reach the upper part of the uterus, and even the ovaries. In man one will feel the bladder with precision, and be able to recognize the presence of calculi, and their number and size. In short, one may not only thus explore the rectum and part of the sigmoid flexure, but may make out tumors in the anterior wall of the abdomen, swellings of the mesenteric glands, and of the lower portions of the kidneys; that is to say, one may be able to feel all the organs contained in the lower two-thirds of the abdominal cavity. In two cases of ovarian cysts, Prof. Simon was able to determine by rectal exploration thus carried out, the width and length of the pedicles, the absence of adhesions, and finally, the presence in one case of two fibrous bodies in the fundus of the uterus. This proceeding enables one to form a precise diagnosis.

Sanguinary dilatations made by lateral incisions, are particularly convenient when it is necessary to perform operations on the rectum.

Dilatation, practised under the influence of an anæsthetic, by four fingers or with the whole hand, is indicated in a great number of the affections of the rectum. It is suitable, in the first place, in the extraction of foreign bodies, the examination and prehension of which are thus facilitated. In wounds of the rectum it favors healing, by allowing a free course to fecal and suppurative materials. In fistula, the introduction of a speculum analogous to that devised by Dr. Sims, permits one to see the lesions and to operate with certainty, the author has thus been able to discover and to cure fistulæ running upwards for considerable distances. Many very interesting cases are reported, which prove the practical value of the proceedings carried out by the author.

ART. 208.—*On Stricture of the Rectum and its Treatment.*¹

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 51, 1872.)

1. Stricture of the lower part of the rectum, complicated with anal fistula. Each element of this complex affection ought to be treated separately, under pain of obtaining but negative or incomplete results. In three patients unsuccessful operations were performed in the ordinary way on anal fistulæ, without any attention having been paid to the contraction of the rectum. In all these patients linear section of the obstacle was made after incision of the

¹ Communicated to the Société de Chirurgie, Paris.

fistulæ, or at the same time, with the best results. Two patients who were severely afflicted have remained well since the operations; one performed in 1863, the other in the following year. A syphilitic female, operated on in 1866, died in 1870 from pulmonary tubercularization; but she did not subsequently suffer from any intestinal lesion. Another woman, brought to the Laribosière Hospital in almost a dying state, went out in a good condition at the end of a few weeks. M. Verneuil was able to make out by the touch, however, that the rectum still presented a marked stricture. The two last operations reported by M. Verneuil are too recent (one a year, the other eight months ago) to justify one in regarding the cure as certain. The fistula, however, remained cicatrized, and the disturbances attributable to stricture have ceased.

The following are the rules of treatment carried out by M. Verneuil. There are two indications: 1st, to incise vertically the rectal wall from above downwards, so that the section comprehends the whole of the indurated ring; the whole thickness and the whole length of the stricture being thus divided; if possible the healthy wall of the rectum, near the upper limit of the stricture, should be incised over an extent of a few millimetres. 2dly, to slit up all the fistulous tracts, accessory as well as principal, as in ordinary cases of anal fistula.

These two stages may be executed during one or several sittings, according to the gravity of the case and the extent of the disease. When possible it is preferable to incise the stricture at once, because this requires prompt relief, and the bad results of retention are thus prevented. Still, if there be much induration, and great swelling of the soft parts of the perineum, this engorgement should be immediately relieved by incision of the chief superficial fistula.

A single vertical section of the stricture is generally sufficient; in one case, however, M. Verneuil made incisions in front and behind. The seat of section is most frequently determined by the situation and course of the fistulæ. It may be made either on a probe or a grooved sound. But if these instruments pass into the rectum at a given point below the superior limit of the stricture, it will be necessary to make an artificial track, passing through the healthy mucous membrane beyond the obstacle. This track may be made with a strong director or curved trocar, or with a strong curved and blunt-pointed needle, carrying a thick thread, which is to be sought for in the rectum by the left index finger; one end of the thread is then brought outwards through the anus, whilst the other is retained in the track of the fistula. By means of this thread the chain of an *écraseur* may be passed. In cases of multiple fistulæ, situated at unequal distances from the margin of the anus, it is necessary to explore the different tracks, and to choose for the passage of the chain that which is the most direct and nearest the anus, provided, however, that this leads up to a point close to the stricture. One should always select, however, in preference the track which is nearest to the posterior median line, the relations of the rectum being more simple behind than in front or at the sides. If the indurations of the lateral parts mount too high, and the stricture be more accessible posteriorly, M. Verneuil recommends that the fistulous track be disregarded and that the posterior median section be made.

If the first stage has not been too long or too laborious, one should at once incise the fistulæ, several *écraseurs* being used simultaneously, overhanging edges and subcutaneous sinuses may be incised with the bistoury, but on condition that the margins and base of the resulting wounds be touched with the actual cautery. M. Verneuil cauterizes, though very slightly, the wound made by the *écraseur*; cauterization is the most powerful resolvent of indurations and callosities. The subsequent dressing is very simple, and consists in cold water compresses, two or three irrigations daily with chlorinated water, or a mild solution of alcohol or carbolic acid.

To resume: vertical section of the rectum performed in the median line with the *écraseur*, constitutes an efficacious, innocent, and easy means for treating fibrous or spasmodic stricture of the inferior part of the rectum, whenever the obstacle is not situated at a distance of more than five centimetres from the anus. When the different proceedings of anal dilatation have failed, it is necessary to have recourse to linear rectotomy.

2. In cancerous stricture of the rectum, one acts not to produce a radical cure, but only to relieve suffering. Of three patients operated on by M. Verneuil, two were much relieved; the third died from peritonitis six days after the operation.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 209.—*On the Operative Treatment of Paralysis Radialis (Musculo-Spiral Nerve).*

By Professor BUSCH.

(*Berliner Klinische Wochenschrift*, 34, 1872; *Schmidt's Jahrbücher*, No. 11, 1872.)

The author reports an interesting case of complete paralysis of the radial nerve, which occurred after fracture of the arm. It had lasted for sixteen months, and presented the following symptoms: The exterior muscles of the forearm were much diminished in size, and neither directly nor indirectly could be excited by the strongest faradic current. Voluntary movement of the muscles supplied by musculo-spiral nerve was quite lost, the sensibility of the region, supplied by the same nerve, was considerably reduced, and over a small extent of the back of the hand quite extinct.

Prof. Busch, supposing this condition was the result of compression of the nerve by callus, cut down upon the trunk above the external condyle. Immediately above this process the nerve was of normal size and appearance. Faradic irritation of this portion produced, though only when very intense, fibrillar contractions in the supinator longus muscle. Farther upwards the nerve, along an extent of an inch and a half, was found inclosed in callus, and firmly compressed. After removal of a portion of the callus with a chisel, it was seen flat and small, and resembling ligament. Immediately after the nerve had been freed from its osseous canal the patient was able to extend the second and third fingers, and formication, which had been previously felt, disappeared. On the following day the other fingers could be extended, and the thumb abducted. On the fourth day all the muscles at the back of the forearm reacted to weak faradization.

Here then was voluntary movement as soon as ever the influence of the will could be conducted to the muscles, although previously reaction to faradization had not taken place. The elements serving for the conduction of the stimulus and the compressed portion of nerve must have remained in a normal condition, whilst the susceptibility to the action of electricity had been abolished.

A remarkable point in this case is the sudden restoration of voluntary movement, and the normally maintained nutrition, at least in part, of the muscles, although their function had been abrogated for sixteen months, and they had apparently undergone advanced fatty degeneration.

The author alludes to an analogous case which was observed and recorded by him in 1863. Here also the musculo-spiral nerve had been paralyzed after fracture of the humerus, the nerve being so firmly compressed between the callus and a bridge of scar-tissue about two inches in length, that complete paralysis, both of motion and sensation, was the result. Immediately after the removal of the compressing agent the patient was able to extend the hand. Subsequently the functions of the limb were completely restored. In this case the operation was performed soon after the occurrence of the fracture.

ART. 210.—Case of Subclavian Aneurism Treated by Temporary Compression of the Innominate Artery, followed by Ligature.¹

By E. R. BICKERSTETH, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

(*British Medical Journal*, Dec. 7, 1872.)

The patient, a strong, healthy-looking dock porter, aged forty, was admitted into hospital on April 15th, 1868. He was suffering from an aneurism from the third part of the right subclavian artery, traceable to a strain incurred while moving a heavy weight about three weeks previously. It was about the size of a hen's egg, and presented no features of difficulty in diagnosis. A review of the various plans attempted for the cure of this complaint seemed so unpromising that it was resolved to try temporary compression of the innominate artery. Mr. Porter, of Dublin, had attempted this in 1867 by means of an instrument not unlike a miniature lithotrite, between the blades of which the artery, after having been laid bare, was compressed. The pressure here, however, being rigid and unyielding, produced a slough in the coats of the vessel, and fatal hemorrhage resulted. In this instance an attempt was made to secure elastic compression, sufficient to stop the flow of blood through the vessel, but not strong enough to injure its coats. The instrument was devised, consisting of a hollow stem with a transverse bar, having eyes at its extremities. In the hollow stem worked a screw, having also a transverse bar, to the extremities of which two India-rubber bands or accumulators were attached. A wire passed through the eyes of the lower bar, and was attached to hooks at the end of the accumulators, and by means of this wire the artery was compressed against the lower transverse bar. By moving the screw the accumulators were put on the stretch and the wire tightened upon the vessel. The great difficulty was to find a suitable wire: one which should be quite pliable and supple, and yet sufficiently strong. Gold, copper, silver, aluminium, and lead were tried upon an innominate artery removed from the dead subject, upon which the instrument was placed, while a very powerful stream of water was passed along the vessel. The last-mentioned was adopted—namely, lead.

On May 5th the operation was performed. An incision was made parallel with the anterior edge of the sterno-mastoid as low as the sterno-clavicular articulation, and another from this point outwards along the clavicle. The flap thus formed was raised, the sterno-mastoid, sterno-hyoid, and sterno-thyroid cut through, and the sheath of the common carotid laid bare, this was followed down to where it meets the subclavian, and the innominate then came into view. A portion of the sheath of the latter was separated, an aneurism needle armed with thread passed beneath the vessel, and by means of this the lead wire was pulled through. The clamp was passed down on the wire and screwed up, when pulsation in the aneurism and in the radial at once ceased. The end of the instrument was out of the wound a long way, and moved like the pendulum of a clock with every beat of the innominate.

For the first forty-eight hours everything progressed most satisfactorily, but at the end of that time pulsation was found in the tumor, and the house-surgeon on proceeding to tighten up the clamp, found that it did not act. A few hours afterwards Mr. Bickersteth, having had the patient put under chloroform, opened up the wound, and found that the constant sawing action produced by the impulse of the artery had cut through the lead wire at the point where it passed through one of the eyes of the transverse bar. As the instrument seemed now useless, two strong silk ligatures were put beneath the vessel, one above and one below the point where the lead wire had been. This second operation was accomplished with the greatest ease.

The patient went on tolerably well till the evening of the fifth day after this

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, Nov. 26th.

last operation, when some hemorrhage occurred. On the sixth day three attacks ensued, and on the last occasion the loss of blood was so great and so uncontrollable that the patient died rapidly in a convulsed condition. Loose shot was poured into the wound on the last two occasions.

The post-mortem examination showed the wound healthy, the innominate from the aorta to the point of ligature filled with a firm tightly fitting clot, the common carotid empty, the subclavian empty as far as the aneurism, the aneurism itself filled with firm, laminated coagulum, and the subclavian beyond it also occluded. The aneurism was practically cured. The hemorrhage had occurred on the distal side of the ligature.

ART. 211.—*Ligation of the third Portion of the Subclavian Artery and Amputation at the Shoulder-joint.*

By ALFRED KINNEY, M.D.

(*Pacific Medical and Surgical Journal*, Nov. 1872.)

"J. S., aged thirty-five, a healthy Irish laborer, was run over by a railroad car, at the East Portland depôt, June 6th, at eleven A.M. A physician saw him immediately afterward, at the Railroad Hospital, and controlled the hemorrhage until my arrival, an hour later. I found the bones and muscular tissues of the left arm and forearm completely crushed; small fragments of the humerus having been driven in and around the shoulder-joint, lacerating the axillary artery as far up as its origin.

"On account of the very extensive laceration of the axillary artery we determined, during a hasty consultation, to ligate the subclavian before removing the arm, which I did in the third portion, assisted by Drs. Rafferty and Aug. C. Kinney; and afterwards severed the arm at the shoulder-joint.

"Having removed the spiculæ of bone, and cut away all the badly lacerated and extravasated tissues from the shoulder, we trimmed the least contused portions of the integument into flaps, much like those of the Baron Larrey operation. The wound was united by silk sutures, leaving an opening at the most dependent part for drainage, and dressed with oakum and a weak solution of carbolic acid. The patient, who was suffering from the severity of the shock, was given stimulants in large doses.

"There were no other symptoms than those usually following such severe injuries, until the fifth day, when gangrene commenced in the wound: the shoulder in the course of a few hours becoming cedematous; the integument changed to a darker color, and a thin, offensive discharge ran from the wound. Fever was very high, and the pulse 140 per minute. Immediately the partially united wound was laid open by free incisions, and thoroughly washed out with a strong solution of carbolic acid. The gangrene ceased, and in a few days the mortified tegument was left, after the separation, to cover the bony prominence, excepting a chasm anteriorly, which filled up with granulations and cicatrized over within two months after the time of the accident.

"The ligature came away from the subclavian on the seventeenth day. The patient is now entirely well."

ART. 212.—*On Scapulo-Humeral Periarthritis.*

By Dr. SIMON DUPLAY.

(*Archives Générales de Médecine*, Nov. 1872.)

1. Direct and indirect injuries of the shoulder are often followed by inflammation of the tissues which surround the scapulo-humeral articulation, and this periarthritis in being localized, more especially in the subacromial serous sac and in the sub-deltoid cellular tissue, determines thickening and induration of the cellular tissue and the walls of the sub-acromial sac, formation of adhesions and fibrous bands which impede or completely prevent gliding of the

upper extremity of the humerus on the under surface of the acromial arch and along the deep surface of the deltoid muscle.

2. This peri-arthritis may be distinguished from an intra-articular affection by the absence of deformity and swelling. The latter, when it is present in the acute stage, affects only the apex of the shoulder. Peri-arthritis is characterized by the following symptoms:—

- (a) Impeded movement at the shoulder. This is sometimes so marked that the arm cannot be raised to the horizontal position. In all the movements the relations of the humerus to the scapula remain constant and this latter bone moves at its clavicular articulation. In most cases these movements are attended with crepitation.
 - (b) Pain excited by movements and seated, not in the region of the joint, but below the acromion at the level of the humeral insertion of the deltoid muscle. Pain excited by pressure below the acromion at the level of the coracoid process. Sometimes formication and a sensation of numbness along the arm, forearm, and hand.
 - (c) Sometimes the arm is semi-flexed, extension causing pain in front of the elbow, and in the neighborhood of the coracoid process.
3. Peri-arthritis of the shoulder ought to be treated carefully at its commencement, in order to prevent stiffness, which would be the consequence of this affection. Gymnastic exercise of the limb, electricity, douches, and shampooing constitute the best means of treatment.
4. When one has to deal with chronic peri-arthritis, the sole means of procuring a rapid and complete cure, is rupture of the fibrous bands with great force, and at a single sitting. With this operation, which should be repeated if the result obtained by the first operation be not satisfactory, chloroform is indispensable.
5. Finally, after the rupture of the adhesions, it is necessary to submit the patient for some time to the same means that have been already indicated (gymnastics, electricity, douches, shampooing), until the shoulder has regained the integrity of its movements.

ART. 213.—*Clinical Remarks on Excision of the Shoulder-joint and of the Wrist-joint.*

By JOHN ERICHSEN, F.R.C.S.

(*The Lancet*, Jan. 11.)

Excision of a joint may be required in disease or compound injury of the articular structures; but the following remarks will apply only to resection of diseased joints, and in the first place to that of the shoulder-joint.

About May, 1870, a healthy boy, aged fourteen, struck his left shoulder against the corner of a wall, and, although nothing was noticed for some months, inflammation supervened, and about nine months after the receipt of the injury a large abscess formed behind the shoulder. The abscess was opened, but nothing but blood escaped till the fourth day, when pus was freely discharged. A sinus leading down to carious bone resulted. On September 17th, 1872, the boy was admitted into the University College Hospital, and was examined by Mr. Heath, who detected dead bone at the upper part of the humerus, and advised an operation. On October 2d, the boy being under the influence of chloroform, Mr. Erichsen examined the joint with a probe, and found extensive disease of the scapula as well as of the humerus. A longitudinal incision was made from the sinus (which was just behind the posterior edge of the deltoid) through the deltoid muscle, and the joint exposed. The head of the bone was then sawn off, and the dead bone in and around the glenoid cavity gouged out. The humerus was then replaced, and the wound closed with wire sutures. The boy progressed without a bad symptom, and by the 21st of the same month was nearly well. On the 28th passive motion was commenced; and on November 9th the boy could move the limb

without difficulty or pain. The wound was nearly closed, although there was a considerable discharge from the old sinus.

In the healthy shoulder-joint there are five movements—namely, flexion, extension, adduction, abduction, and rotation, and it is desirable to preserve as many of these as possible, although some are necessarily destroyed. The joint in this case was incurably diseased, as the articular structures were deeply affected, and death might have resulted from hectic; and if the joint had not been excised, amputation of the limb, with excision of part of the scapula, would have been necessary. The object of the operation was, therefore, to remove the diseased structure, and thus probably to save the patient's life, and to save the limb by removing only the diseased joint. In the upper limb it is all-important to preserve the movements of the hand, for without the hand the upper limb is practically useless, but leave the hand and it matters little how much of the upper portion of the limb be removed. Now, excision of the shoulder-joint leaves the movements of the elbow and wrist-joints free; still the limb is crippled. To what extent? What movements are destroyed? Much depends on the kind of operation performed. The older operation was to make an anterior flap, and thus to cut through the insertion of the deltoid muscle; but the more modern operation does not interfere with the insertion of this muscle, as the incision is made in the course of the fibres of the muscle. But all the muscles attached to the tuberosities are sacrificed, as the line of section must be through the surgical neck of the bone, the disease rarely stopping at the anatomical neck. There will, therefore, be a loss of the overhand movements, while the underhand movements will remain practically perfect. This leaves a useful limb, for the overhand movements are rarely required, and for nearly all ordinary occupations the underhand movements are sufficient. The after-treatment consists in keeping the limb at rest for three or four weeks, and then exercising passive motion. The fistulous opening may continue to discharge for a long time, as a large cavity is left, which may take months or even a year to close.

The old operation for excision of the wrist-joint consisted in exposing the joint by making a semilunar dorsal flap and cutting through the extensor tendons of the wrist and hand. The modern operation, which was first proposed by Professor Lister, preserves both the flexor and extensor tendons. The movements of the wrist are those of flexion and extension, and for this purpose there are five sets of muscles—viz., those of the thumb, the extensors of the fingers, the flexors of the fingers, the extensors of the wrist, and lastly, the flexors of the wrist. In Lister's operation the extensors and flexors of the thumb and the extensors and flexors of the fingers are preserved, but the extensors of the wrist are necessarily divided; the flexor carpi ulnaris is left attached to the pisiform bone, and the flexor carpi radialis usually escapes from being inserted low down into the second metacarpal bone. The only muscles, therefore, that are necessarily divided are the extensors of the wrist. The diseased carpus, with the heads of the metacarpal bones, and the end of the radius and ulna, are removed, care being taken to leave the radius and ulna, especially the styloid process, as long as possible. By this means the tendency to displacement to the ulnar side is to a great extent counteracted. The object is to get ankylosis at the wrist, but to preserve the movements of the fingers. With these movements the patient can write and perform many useful acts. Although the details are very complicated, the broad principle of the operation is to save the movements of the thumb and fingers, and thus to gain a useful hand. The only vessels in danger in this operation are the radial and deep palmar arch, and the latter is best avoided by not cutting below the bases of metacarpal bones.

ART. 214.—*Report of a Case of Suppuration of the Elbow-joint.*

By WILLIAM MACCORMAC, F.R.C.S., Surgeon to St. Thomas's Hospital.

(Medical Times and Gazette, May 3.)

At a meeting of the Clinical Society of London, March 14th, Mr. MacCormac exhibited a patient who had suffered from suppuration of the elbow-joint, in whom he had eight weeks before punctured the joint and removed a quantity of pus. This operation had resulted in the complete recovery of the motions of the articulation. A. K., aged sixteen, a rather delicate-looking boy, presented himself to Mr. MacCormac at St. Thomas's Hospital on Jan. 17th. In May last he was a patient in St. George's Hospital for an abscess in the upper part of the thigh; and for the last fourteen or fifteen months he had suffered from periodical attacks of pain and swelling in the right elbow. The joint would swell, become very painful, and then after three or four days the symptoms would subside, and the use of the joint be perfectly restored. He believed that in the first instance he had sustained a severe wrench of the elbow. When Mr. MacCormac first saw him the elbow was much swollen, in the manner characteristic of effusion within the joint; the skin over it was red and very tense; distinct fluctuation and pitting of the skin could be obtained on pressure. The boy was suffering intense pain, which made him cry aloud at the very thought of an examination of the joint. His countenance bore a worn and anxious expression. His tongue was coated, and his pulse very frequent. The swelling and pain had commenced on the Monday previous, Jan. 13th, without assignable cause, and the boy stated that he got no sleep or rest, not even taking off his clothes from that time till he came to the hospital. All the symptoms pointed to acute suppuration within the joint, which Mr. MacCormac accordingly punctured with the fine canula trocar of an aspirating syringe, and drew off between three and four ounces of pus mingled with some flakes of lymph and altered synovia. The puncture was made opposite the line of articulation, and midway between the olecranon and external condyle. The boy was then sent to bed, and his arm placed on a well-padded rectangular splint. The relief afforded by the puncture was immediate and permanent. The puncture healed at once, and it could now only be detected by a faint stain at the place where the needle was inserted. He remained in hospital rather less than four weeks, during which the improvement was continuous. His arm was, however, kept on the splint for six weeks. At the end of four weeks there had not been the slightest return of pain, the swelling of the parts around the joint had gradually disappeared, and he was able to move the joint without feeling even uneasiness. On Feb. 28th the splint was removed. There still remained slight thickening of the lower end of the humerus, and also of the back of the olecranon. The boy could not fully extend the arm, but with this exception the movements of the joint were absolutely perfect. His strength and health had otherwise greatly improved. Mr. MacCormac, in presenting the lad for the inspection of the members, said that, though the result of one case must be taken *quantum valeat*, he could not but regard it as furnishing much encouragement for the use of similar means on other occasions. The history of a case of suppurating joint seldom furnished so satisfactory a conclusion.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 215.—*On Excision of the Knee-joint.*

By RICHARD G. BUTCHER, M.R.I.A., University Lecturer on Operative Surgery, and Surgeon to Sir P. Dun's Hospital, Dublin.

(Pamphlet, Illustrated with Lithographs. Dublin. 1872.)

Some years since, Mr. Butcher laid down the following rules. He has turned out, successfully cured, many cases according to their direction, and he brings

forth one, lately operated on and cured, to prove the certainty with which a satisfactory issue may be looked for if the observations which he has so strenuously urged be strictly adhered to:—

"1. *The judicious selection of the case.*—The bones not being diseased far beyond their articular surface, which, if upon section found to be a little more than had been expected, the part should be gouged out, or an additional thin slice removed; but if to a greater extent, amputation should be at once resorted to, and as recorded in my work on *Operative Surgery*, with a hope of excellent success. Again, amputation, as I have shown, may be performed some days after excision, should any unfortunate circumstance in the management of the case demand it. I have recorded seven instances of amputation of the thigh, and all made rapid recovery save one.

"2. *The H incision should be preferred*, and the perpendicular strokes placed well back, just in front of the posterior wall of the joint, so as to allow all fluids and discharges to drain off—far more effective and safer than any opening made in the popliteal space. No portions of the flaps should be curtailed, though they may be thinned of any thickened fibrinous matter or diseased synovial membrane; the latter particularly should be clipped away with strong scissors. All ligamentous fibres, both around and within the joint, should be cut through, and the extremities of the bones fairly freed and exposed, great caution being taken not to break up the posterior wall of the joint. It should be set free from the bones in this way:—This fibrous structure, strengthened by the expansion of the semi-membranous muscle, should be detached with the knife from the edge of the tibia, only to about the eighth of an inch in depth, and then the fibrous structure forced down from the tibia to the required extent with the handle of the knife, and so in a similar manner it should be set free from the femur.

"3. *The patella should be taken away in all cases, whether diseased or not*, and then the section of the bones, well thrust out in front, should be made with 'Butcher's saw,' from *behind forward*, due attention being paid to the axis of the thigh-bone at the time of its division, that the section be strictly at a right angle with the shaft; by this means *the artery (popliteal) is safe*.

"4. All bleeding vessels should be tied, or any that have sprung or retracted should be drawn out and secured, so as to guard against intermediary hemorrhage.

"5. *While the patient is yet on the operating table, the limb should be placed in the horizontal position, either by gentle and steady traction, combined with pressure of the cut surface of the bone backwards, or, if necessary, the division of the hamstring tendons.* Their support behind in every case I look upon as of great value, therefore their section must be looked upon as a bad expedient towards straightening the limb.

"6. *During the adjustment of the bones, great caution should be exercised that their surfaces should be, throughout their extent, in contact, and that no soft parts intervene.* The flaps should then be laid down and connected by suture closely throughout their transverse division, while the lateral incisions should be brought together only at their extremities by one or two points, and the central portion of each left open just in front of the posterior wall of the joint, and lightly dressed with lint soaked in oil, thus affording a ready outlet for the escape of fluids. The extremity should next be cautiously laid upon 'Butcher's box-splint,' padded to the natural configuration of the limb, its sides elevated, foot-board applied, suitable pads introduced, and then the anterior splint laid on, taking the place of the assistant's hand, which, from the first, restrained the femur from projecting forward; then the straps buckled, the waistband applied, and the patient may with safety be removed to his bed. The bed should be prepared in this way, and consist of a couple of hair mattresses, laid one upon the other, evenly supported, and, intervening between the upper one and the sheet, a folded blanket, with feather pillows for supporting the head and shoulders; the bed should be moderately warmed so as to prevent the patient being chilled when put into it.

"7. *The limb should not be disturbed for several days*, the length of time depending a good deal on the season of the year when the operation is per-

formed—whether it be in the heat of summer or in the cold of winter. After five or six days it may be necessary to let down the sides of the box-splint, to remove discharge, change internal pads, or soiled dressings, etc. By the apparatus named, the facilities for cleansing the limb are so efficient that it may not be required to lift the member from its support for even so long a period as six weeks, as evidenced in my own practice. Should, however, it be considered expedient to change all the dressings, the anterior splint should be steadily held back by assistants, and the limb pressed up to it, thus guarding against any starting of the femur forwards, or displacement laterally when lifted from its bed. When the box is prepared and freshly arranged, the limb, controlled after the manner mentioned, should be laid down, the side splint elevated, foot-board secured, and the straps over the anterior splint first tightened, so as to maintain it in that position, from which it was never suffered to change. I would impress the advice still further—if the straps be loosed for any purpose, *the hand of an assistant should steadily keep the anterior splint in its position*, and well pressed back, until the artificial support is again brought to bear upon it, and fastened.

"8. *In cases where large abscesses form in the vicinity of the excised joint, or up along the thigh, Chassaignac's drainage tube may be used with the best hopes of success.*

"9. *The free administration of stimulants and sedatives is imperatively demanded in all cases of excision, regulated to a certain extent by age, sex, temperament, and habits.*"

ART. 216.—Case of Excision of the Knee-joint for Disease in a Woman Fifty-three Years of Age, with Successful Result.¹

By FREDERICK J. GANT, F.R.C.S., Surgeon to the Royal Free Hospital.

(*The Lancet*, Feb. 22.)

The object of this paper is to lay before the Society the particulars of a case which may be regarded as a notable exception to the typical conditions of disease that are appropriate for excision of the knee-joint or other joints. The chief peculiarities are these: The disease, chronic rheumatic arthritis of twenty-three years' duration, resulting in imperfect ankylosis, with partial dislocation of the leg backwards, corresponding malposition of the limb, and increasing tendency to displacement; the age of the patient, fifty-three years; excision as performed in relation to the state of the joint; firm union in seven weeks; complication of after-treatment by accidental attack of erysipelas affecting the whole limb without destroying the union; permanent result, and measurement of the limb five months after operation.

In commenting on these particulars, the author was led to suggest the applicability of excision to a condition of disease which had not hitherto, he believed, been submitted to the operation, and at a more advanced period of life, thus comprising a larger class of cases, although of exceptional character; in the present instance the age of the patient being the most advanced in which excision of the knee had hitherto been practised, or at least recorded.

Since completing the history of this case, the author has found one other case in which excision of the knee-joint was performed by Mr. Curling for chronic rheumatic arthritis, and with a successful result, the patient's age, however, being twenty-three years.

ART. 217.—Treatment of Transverse Fracture of the Patella.

By WILLIAM STOKES.

(*British Medical Journal*, May 31.)

At a meeting of the Surgical Society of Ireland, March 28th, Mr. W. Stokes read a paper on this subject. Four questions suggested themselves: 1. What

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, February 11th.

was the cause of the separation of the fragments? 2. Whether the original cause of this phenomena continued to act? 3. Can bony union ever take place in this injury? 4. What was the safest and most effectual method of treatment for it? For the production of transverse fracture it was necessary that the limb should be flexed. The cause was, in fact, muscular contraction of the quadriceps extensor. This muscle did not remain in a state of contraction, so that the continued separation of the fragments seemed to depend on an internal hemorrhagic weeping. Bony union, again, was delayed in consequence of but one side of the patella being covered with periosteum. Passing to the fourth question, Mr. Stokes said that Malgaigne's hooks were most useful, but in some cases the pain caused by them was extreme. The treatment which seemed most suitable and satisfactory was that proposed by Mr. Sanborn, of America. Two illustrative cases were cited by Mr. Stokes, in one of which he had succeeded in obtaining perfect bony union, and in the other the closest apposition of the fragments, by this method.

'ART. 218.—On Supra-Condylloid Amputation of the Thigh.

By WILLIAM STOKES, Surgeon to Richmond Hospital.

(*Dublin Journal of Medical Science*, December, 1872.)

In drawing attention to this operation, Mr. Stokes says of six thigh amputations three were operated on by this method. The femoral section should in all cases be, not through the condyles, as in Gritti's operation, but above them. The section is *supra*, not *per-condylloid*, the division being from half to three-quarters of an inch above the antero-superior edge of the cartilage of incrustation. Secondly, the cartilaginous surface of the patella must in all cases be removed; thirdly, the anterior flap should be oval; and lastly, the posterior flap should be fully one-third of the length of the anterior flap. As regards this last point, Mr. Stokes is beginning to be inclined to the opinion that the posterior flap should be even somewhat longer than one-third of the anterior flap.

The advantages of "supra-condylloid amputation" may be classified into those which it has in common with other amputations at and near the knee, and those which are peculiar to itself. Among the former may be mentioned, the stump being more useful for progression, the possibility of bearing pressure on the face of the stump, the patient not being obliged to walk as if he had ankylosis of the hip-joint, the operation being less hazardous than the ordinary flap, or circular amputations of the thigh, from its being further removed from the trunk, the shock being less, there being less chance of protracted suppuration from the anterior flap, consisting for the most part of skin and fasciæ, impossibility of a conical stump resulting, and lastly diminished liability to the formation of tubular sequestra. The special advantages Mr. Stokes claims for supra-condylloid amputation are those derived from preserving the normal attachments and functions of the quadriceps extensor cruris, the diminished chance of inflammation supervening from the vessels being divided at right angles to their continuity, and not obliquely, the probable advantages derived from having the cut surface of the femur immediately covered by the patella, and lastly, the diminished chance of purulent absorption from the posterior surface of the anterior flap being lined for the most part by synovial membrane. In truth, "supra-condylloid amputation" possesses all the advantages of both the circular and flap amputations, and the defects of neither.

The strongest testimony Mr. Stokes has yet received as regards the value of the operation has been from Mr. Wheelhouse. He remarks—"I have performed the operation four times, and with invariable success. I consider the method to possess advantages which render it in many cases *decidedly superior to any other system of amputation* of the limb, and which renders its adoption almost, if not quite, imperative.

"In no instance, in my hands, has the patella slipped from its position at the end of the sawn femur; in no instance has there been any threatening of the

formation of any sequestrum; and in all, a good cushion, covered with well organized skin, and a limb (or rather stump), endowed with rather more than usual freedom of movement, has been the result."

ART. 219 — *A Case of Amputation at the Hip.*¹

By RICHARD BARWELL, F.R.C.S.E., Surgeon to Charing Cross Hospital.
(*The Lancet*, April 5.)

Caroline L——, aged seven, was admitted into Charing Cross Hospital under Mr. Barwell's care September, 1872. She had previously been under the care of Mr. Hancock with severe hip disease, and that surgeon had, in the early part of 1871, excised the head of the bone, but during the operation, the thigh, a mere shell of bone, had broken in two places. She went out after some months with bony union, but with open sinuses. When readmitted at the above date she was emaciated and feeble; there were several open sinuses; the liver was much enlarged. After watching the case for some time, the operation was decided on, and performed by Mr. Barwell on the 2d November. Hardly any blood was lost; the limb was almost devoid of muscles, the bone carious and inflamed throughout. The child rallied, and after a time (corresponding with the occurrence of smart diarrhoea) the liver began to diminish in size. On the 1st of February the child went out with the liver much smaller. Certain deductions concerning the states of liver in different phases of disease were given.

ART. 220.—*Intracapsular Impacted Fractures of the Neck of the Femur.*

By R. W. SMITH, M.D., F.R.C.S.I.

(*Dublin Journal of Medical Science*, January 7.)

Professor Smith exhibited, April 27th, 1872, to the Dublin Pathological Society, two specimens of fracture of the neck of the femur, intracapsular, and with mutual impaction of the fragments. In one of them solid and complete osseous union had taken place; in the other, consolidation was in progress, but nowhere accomplished completely.

The first specimen shown had been preserved for a great number of years (probably forty) in the Pathological Museum of Trinity College. The history of the injury was unknown, the specimen having, most probably, been found in a subject brought in for anatomical purposes. A vertical section of the bone recently made by Dr. Bennett, rendered it evident that, at some period of the life of the individual, and long before his death, a transverse intracapsular fracture with impaction had taken place.

The neck of the bone had lost its natural obliquity, being directed horizontally inwards: the head of the femur was approximated behind and inferiorly to the posterior intertrochanteric line, and to the lesser trochanter, so that the cervix had nearly altogether disappeared, except in front, where a projecting osseous ridge, formed by the anterior margin of the upper extremity of the lower fragment, marked the seat of fracture. Posteriorly, the line of fracture was close to the corona of the head of the femur.

A vertical section of the bone disclosed the following appearances: The head and neck had been mutually impacted into each other, the compact tissue of the latter having penetrated the former, while, both above and below, it was itself overlapped by the reticular structure of the head of the femur. Osseous union, solid, immovable, and perfect throughout the whole extent of the fracture, had taken place between the fragments, the cells of which communicated with each other, except where the compact tissue of the lower fragment intervened.

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, March 25th.

The second specimen had been recently found in a subject brought to the school for dissection, but the history connected with which was equally unknown. In this case the limb was shortened half an inch and the foot everted. Its inversion could not be accomplished beyond such a degree as permitted of the patella being brought to look directly forwards.

Upon examination, the neck of the bone was found to have been broken above its centre, the line of fracture being everywhere within the capsule. The normal obliquity of the cervix was not as much altered as in the first specimen, but owing, most probably, to the eversion of the limb (in this case greater than usual), a considerable interval existed in front between the fragments; this interval had not become filled up. Posteriorly the corona of the head of the bone was closely approximated to the posterior intertrochanteric ridge.*

A vertical section of the bone, carried through the head, neck, and greater trochanter, disclosed a fracture with mutual impaction of the fragments. The cellular tissue of the head of the bone had been penetrated both above and below by the compact structure of the cervix, the intervening space being filled up by a projecting portion of the broken surface of the superior fragment. It was here that the process of osseous union had made most progress, but it could not be said to be perfect even here. From the appearance presented in this specimen it is manifest that the injury was of comparatively recent occurrence, and Dr. Smith entertains no doubt but that the case would have terminated in perfect osseous union, had life continued for a few months longer.

ART. 221.—*Anchylosis of the Hip-joint, with Extreme Malposition of the Limb Upwards and Inwards; Subcutaneous Section of the Femur below both Trochanters.*

Under the care of Mr. GANT, at the Royal Free Hospital.

(*The Lancet*, December 21, 1872.)

On Dec. 10th Mr. Gant performed the above operation on a boy, aged six, at the same time remarking that it differed both from Mr. Adams's subcutaneous section of the neck of the femur, and from the American operations between the trochanters of section and excision, by Barton and Sayre.

The reasons which induced Mr. Gant to perform this new operation had, he said, a double foundation. 1. On the pathological ground that the section is not made in a diseased portion of the femur, but in sound and healthy bone. 2. For the anatomical reason that, the section being made below the small trochanter, the resisting psoas and iliacus muscles are set free. Further, that there is no risk of atrophy, or necrosis of the head of the bone, from cutting off of its vascular supply.

If successful, Mr. Gant thinks that this operation will be applicable (instead of excision) to a class of hip-joint cases where the disease is quiescent but the limb useless, the state being simply that of ankylosis with malposition; and especially appropriate in young subjects, where removal of the epiphysial head of the femur might be followed by shortening of the limb.

After section the limb was freely movable, and was at once brought into a straight position, and kept fixed by means of sandbags, and extension by weight attached to the foot, the counter-extension being made by a perineal band.

ART. 222.—*Amputation through the Metatarsus.*

By G. W. TOPPING, M.D.

(*Michigan University Medical Journal*, July, 1872.)

Dr. Topping records a case in which this operation was performed. F. J. P., aged eighteen, on Jan. 4th. 1870, by a single blow from an axe, severed the first four toes in a slanting direction, partly through the heads of the meta-

tarsal bones, and partly through the metatarso-phalangeal articulation. The detached portion hung only by a piece of skin an inch in width, and the bones protruded so as to render amputation higher up necessary.

An oval flap was dissected from the dorsum of the foot, the metatarsal bones sawn through their middle, and a large flap taken from the plantar surface by cutting from within outward. Two arteries only required ligatures. The wound healed very quickly, leaving a good sound stump, upon which the patient walks with but a slight limp, and does all kinds of farmwork, such as ploughing, dragging, etc., as well as before the accident, without producing any irritation of the stump. There is no dragging of the stump and consequent liability to ulceration, as is so commonly the case after Chopart's operation.

Mr. Topping is not aware that any writer upon surgery has either recommended or described the above operation. The nearest approach to it is what is known as Hey's, or by some Lisfranc's, operation through the metatarso-tarsal articulation, or, as it was sometimes performed, by sawing off the head of one or more of the metatarsal bones. This (Hey's) operation has seldom been performed, even in cases where it would have sufficed the purpose of amputation.

ART. 223.—*Novel Method of Amputation of the Foot for Gangrene.*

By R. W. SMITH, M.D., Professor of Surgery in the University of Dublin.

(*Medical Press and Circular*, Feb. 26.)

At the meeting of the Dublin Pathological Society on the 15th February, Dr. R. W. Smith exhibited the leg and foot of a man who had been admitted into the Richmond Hospital about ten years ago. He had been working in the country, and a large block of stone had fallen on the anterior part of his foot, injuring the soft parts so severely that gangrene rapidly ensued.

The man came to hospital a week after the occurrence, and when gangrene had ceased to spread, and a line of separation had formed, the dead portion was removed by cutting in front of the cuboid and navicular bones, and making a long flap from the sole of the foot. Great difficulty was experienced in healing the stump, and a very long period of time elapsed before the man was able to return home, and the cicatrix and the ulcer ulcerating and healing frequently.

Four years ago he was again admitted into the hospital, suffering from very extensive ulceration on the dorsum of the foot. At length, after several months he went to the country, and soon afterwards the core healed, and there was no subsequent attack of ulceration.

Last year he again appeared at the hospital, suffering from idiopathic, or Pott's gangrene of the other foot, which terminated fatally after several months' intense and unceasing agony.

The post-mortem examination showed that the ankle joint was perfectly sound. There was no ankylosis between the os calcis and astragalus. The cuboid and navicular bones had been joined to each other, and deeply excavated at their posterior aspects. With regard to the line of operation Dr. Smith had followed, any one who looked at the specimen would see that it was neither Hey's operation, nor Chopart's.

The incision was carried through the median-tarsal range, detaching the fourth and fifth metatarsal bones from the cuboid and the cuneiform bones from the navicular, leaving behind four bones of the tarsus—viz., the os calcis, the astragalus, the cuboid, and navicular. A much longer stump was thus left than after Chopart's operation.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 224.—*On the Position of the Uterus at the End of Pregnancy.*

By Professor WILHELM BRAUNE.

(*Univ. Program, Leipzig, 1872; Schmidt's Jahrbücher, No. 12, 1872.*)

The author's investigations were made on two very fresh bodies—one, that of a female, who had died in the last month of pregnancy, the other of a female in whom parturition had already commenced. In neither of these bodies was any sign found indicating that the position of the womb and the surrounding parts had been changed by a previous examination. The liquor amnii was retained even in the second body; and in both cases the membranes were found quite intact in the vagina. By the use of a freezing mixture the bodies were completely hardened, and by frequent renewal of the mixture care was taken to keep the parts in the original position until satisfactory drawings had been taken.

The results obtained from these investigations differ from the reports of other authors. According to Matthews Duncan the pregnant uterus with the ordinary pelvic inclination should form an angle of 30° with the horizon in the standing position, and an angle of between 30° and 60° in the completely recumbent position, which statement presupposed a persistent relation of the uterus to the skeleton, and also a stiffness of this organ with a rectilinear axis. Prof. Braune concluded from his examination of the first body that no rectilinear axis exists in the pregnant uterus before birth. The organ is soft, and at its contours yields to the protrusions and fills up the depressions of surrounding parts. In the second subject, the uterus of which was firmly contracted, there was a well-marked rectilinear axis which formed an angle of 47° with the horizon in the recumbent position of the body.

Prof. Braune next inquired whether the living highly pregnant uterus is before birth soft and flexible, so that the form and position of the organ can undergo changes in the different positions of the body, and according to the positions of the surrounding parts; or whether its form is unchangeable, the position of the long axis alone changing with the changing positions of the body. Concerning this important question the author's report differs from the account given by Schultze. According to the latter observer, the diameter from before backwards of the body at the level of the umbilicus is 36, and the distance of the anterior abdominal wall from the lumbar vertebrae 25.5 centimetres. Prof. Braune, on the other hand, states that the depth of the abdominal cavity at the level of the umbilicus in one of his subjects was only 16.7 centimetres, the whole depth of the body being 26.7 centimetres, and in the other subject 20.5 centimetres, with a complete depth of 30.5 centimetres. In both cases the lumbar portion of the vertebral column occupied one-third of the whole depth of the body.

This difference the author attributes to the fact that Prof. Schultze's measurements on living subjects were made with the body erect, whilst those of the author were made on the recumbent cadaver in which the diaphragm was elevated. For the further explanation of this Prof. Braune undertook, in company with Dr. Ahlfeld, a number of measurements bearing upon the form and

position of the uterus in advanced pregnancy, in the erect and recumbent positions of the living body. The following is a summary of the results obtained by these investigations:—

1. The uterus of advanced pregnancy presents before birth a mass, soft and changeable in form.
2. In the horizontal dorsal position of the body the uterus lies upon the vertebral column, and increases in its longitudinal diameter.
3. The womb often lies obliquely in this position, as if it had slipped over the convexity of lumbar vertebræ; and, indeed, to a greater extent in those women who have gone through previous pregnancies, and consequently have lax abdominal walls, than in women in their first pregnancy, and with tense abdominal walls.
4. In the erect position of the body the uterus is supported on the anterior abdominal wall. When the uterus projects forwards the depth of the body is increased; at the same time, however, the circumference of the body is increased at this height.
5. The position of the uterus and its form, therefore, always vary according to the position of the body.
6. The spinous process of the last lumbar vertebra almost always lies on a level with the greatest prominence of the abdomen.

ART. 225.—*On Turning with Contracted Pelvis.*

By Dr. BORINSKY.

(*Archiv für Gynäkologie*, iv., 1872; *Schmidt's Jahrbücher*, No. 1, 1873.)

Opinions concerning the value of turning as an operation for preventing the dangers attendant upon the head presentation in a narrow pelvis still differ. Though isolated cases will always require their special treatment, yet may the question be decided by the results of a sufficiently large number of observations from one and the same source, and of a sufficient list of cases treated on the same principles, and in which similar operative proceedings were used. With this object in view the author has collected all the cases of turning with contracted pelvis that occurred in Prof. Spiegelberg's hospital practice from 1865 to 1872.

Turning was performed in consequence of narrow pelvis in 93 cases. The infant was extracted in all but 2 cases of these. Of the children, 34 lived, 33 died during or soon after birth, and 20 were dead before birth. In addition to the turning, perforation was practised in 9 cases; extraction of the head with a hook in 1 case, and extraction with forceps in 2 cases. Of the mothers, 15 died soon after delivery, generally from morbid conditions unconnected with the turning; in 3 cases, however, death was the result of very difficult extraction. According to the indications the cases of turning may be divided as follows, in regard to the passage of the fœtus: 1. Simple head presentation, 16 cases; of these, 7 children living, 9 died. 2. Head presentations with complications, 36 cases; 15 children living, 14 dying in the course of, and 7 dead before, parturition. 3. Transverse and oblique positions of fœtus, 41 cases; 12 children living, 16 dying in course of, and 13 dead before, birth. The pelvis was: 1. Flattened in 74 cases; in 29 of these the child was born living; in 29 cases it died during birth; and in 16 before birth. 2. A generally and equally contracted pelvis, 4 cases; 2 children born living; 1 child dying during birth; and the fourth dead before birth. 3. A funnel-shaped and contracted pelvis; 1 case, in which the fœtus died before parturition. 4. A flattened and also narrow pelvis, 9 cases; 1 child living, 7 dying during, and 1 dead after, birth. 5. Asymmetrical pelvis, 5 cases; 2 children living, 2 dying during, and 1 before, birth. In 15 births with breech presentation, 8 children were born alive; 5 died during, or shortly after birth; and 2 died before birth; 1 mother died from endometritis.

With regard to the influence exercised by the many complications on the course and termination of parturition, the author remarks that it is indeed

self-evident that prolapse of the umbilical cord, or an oblique position of the fœtus, reduces the chances, but when at the commencement an unimpaired fœtal pulse can be made out, the successful termination of the labor depends upon the course of the operation. Irremovable prolapse of the umbilical cord indicated turning in eighteen instances, in thirteen of which the result was favorable, five children only dying during a laborious extraction. The author has arranged in a table the births in which the head presented, with those terminating spontaneously and those submitted to operation, and has compared with these the births in which turning with a head to a foot presentation had been practised. He shows that about 53 per cent. of the fœtuses died during or after the turning, while not more than 30 per cent. died after all other methods of parturition. It remains certain, therefore, that one, in order to preserve the fœtus, should never have recourse to turning as a prophylactic measure, and that to justify this proceeding a decided and prominent danger must be present. The generally contracted pelvis in all its varieties is the least indicative of turning, the most unfavorable results being given in cases of straightened and generally contracted pelvis. On the other hand, the pelvis contracted only in the conjugates affords the relatively best prognosis; if, however, the conjugates be under eight centimetres, the conditions are then analogous to those of general contraction. With regard to the asymmetrical pelvis, it is also certain that on account of the small dimensions of the sacro-cotyloid distance on the contracted side, the portion of the pelvis which lies behind and without this is to be regarded as non-existent for the passage of the head, and that therefore the long oblique diameter does not contribute to the furtherance of parturition.

With abnormal deviation of the head towards the anterior or posterior wall of the pelvis, the so-called *posterior* or *anterior* parietal presentation, delay is dangerous. The former position of the head, dependent on a high steep anterior wall of the pelvis, is not only a great obstruction to the course of the labor, but is, moreover, fraught with dangerous results to the mother. Whilst the flat posterior portion of the parietal is forced deeper into the pelvis, the anterior portion may be held back by the steep anterior pelvic wall; before it can pass, which it seldom does, this portion of the bone must be subjected to crushing force, to the detriment of the mother. The best means of altering this position is to turn, exception being made, though, of cases of generally contracted pelvis. Less dangerous is the anterior parietal presentation, in which a high-standing promontory, generally associated with a flattened anterior pelvic wall, holds back the head bent towards the trunk at an angle open posteriorly, so that the exploring finger feels the anterior portion of the parietal bone closely applied to the pelvis. In instances of long continuance of this condition it becomes necessary to have recourse to turning, in order to remove the persistent partial pressure and to bring on delivery. Though Schröder holds it as rational to turn the child at once in cases of frontal and facial presentation, and also of prolapse of small structures, such as the umbilical cord, Spiegelberg's notes show eight cases, in each of which, with narrow maternal pelvis, the child came alive into the world after reposition of the umbilical cord. Of no greater importance is the indication derived from face presentation.

ART. 226.—On the Diagnosis of Extra-Uterine Pregnancy.¹

By LAWSON TAIT, F.R.C.S.

(*Medical Times and Gazette*, May 24.)

The author thought that in these cases very little confidence should be placed in the statements of patients if they were not in harmony with physical signs. He had, in consequence of the history of her case given by a patient, been led to make an erroneous diagnosis, mistaking a multilocular ovarian tumor for a

¹ Read at a Meeting of the Obstetrical Society of London, May 24th.

case of extra-uterine foetation. There were two circumstances which invariably accompanied extra-uterine gestation which has gone past the period: The first was due to the general excitement and congestion of the organs involved, especially to the enlargement of the uterus; and the second to the absorption of the liquor amnii after the death of the child. The conditions with which extra-uterine pregnancy may be confused before the death of the child were displacement of the normally pregnant uterus during the early months, pregnancy complicated with fibro-myoma or cystic disease of the uterus, and more rarely pregnancy of one-half of a double uterus. After the death of the child diagnosis was more difficult. The two points in the history already mentioned were most important; auscultatory signs were of no use. The other conditions with which it might be confused were pelvic hematocele, ovarian tumors, especially dermoid cysts, cancer, fibro-cystic disease of the uterus, hydatids of the uterus, and phantom pregnancy. The uterus in extra-uterine pregnancy was always intimately associated with a tumor, and generally in front of it, movable to a limited extent, and enlarged. The most important point was that the cervix is always patulous. Under such circumstances, if a foetal heart were audible, the case was clear. If the case were seen after the death of the child the tumor would be soft, and, besides obscure *ballotement*, possibly a part of the child might be made out by internal or external examination. Of the three cases which the author had seen two had been first pregnancies, and in neither had there been any troublesome pain. In the third there was great pain, but the patient was seen during the false labor.

ART. 227.—*Report of a Case of Gastrotomy for Supposed Extra-Uterine Gestation.*¹

By ALFRED MEADOWS, M.D.

(*Medical Times and Gazette*, May 24.)

The patient, aged fifty-eight, was admitted to the Hospital for Women, and had passed through the climacteric period nine years ago. She had great pain in the abdomen, which was enlarged by the presence of a tumor. Sixteen years since she fancied herself pregnant, and in due time had pains like those she had felt in her first confinement; these, however, gradually declined, and no child was born, and since that time she had considered herself to be carrying a dead child. On admission, the abdomen was found to be occupied by a large tumor about the size of the uterus at term, tender to the touch and apparently solid. The uterus was high up, and its cervix very small. The sound passed upwards and forwards two and a half inches. The balance of opinion among the author's colleagues being that this was a case of extra-gestation, it was determined to clear up all doubts upon the matter by making an exploratory incision five inches in length between the pubis and umbilicus. A white friable mass was then discovered, having all the characters of malignant disease. It broke down readily, and two ounces of a thick brownish fluid escaped. Finding it impossible to remove the mass, the abdominal wound was closed. Fifty-three hours after the operation the patient died, and upon opening the abdomen the mass of malignant disease was found to be the omentum, which overlapped the tumor, and was about an inch in thickness. The tumor itself, which was adherent in every direction, proved to be a large fibro-cystic tumor of the uterus. The author cited this case to show the difficulty of diagnosing abdominal tumors. Even with the aid of an exploratory incision, a correct diagnosis of the character of the tumor had not been arrived at previous to death. He believed it to be the moral duty of every one to record his failures as well as his successes.

¹ Read at a Meeting of the Obstetrical Society of London, May 24th.

ART. 228.—On a Case of Extra-Uterine Fœtation, with Operation.¹

By JOHN SCOTT, F.R.C.S.

(Medical Times and Gazette, May 24.)

The patient, aged thirty-two, was admitted into the Hospital for Women complaining of pain in the right inguinal region. The uterus was found developed as in early pregnancy. This was April 17th. On May 15th a tumor could be distinctly felt above the pubes. June 5th: The os could scarcely be reached, and the tumor felt more elastic. Aug. 7th: A feeling was communicated to the finger as if of fluid between it and the uterus; the foetal heart could be heard. January 6th: The tumor extended two inches above the umbilicus, and felt per vaginam like the tense bag of membranes. No foetal heart could be heard, and a hard body like the uterus was felt in front of the abdominal tumor. January 15th: The sound passed four inches, its point being felt in the body just mentioned. On the 29th sudden and violent pains in the epigastrium came on, with restlessness, faintness, and sickness. The cyst was punctured by the aspirator, but no fluid could be withdrawn. On the 30th, in consequence of threatening symptoms, it was decided to make a free incision through the abdominal walls, when what appeared to be the enlarged uterus presented itself, but on extending the incision upwards it proved to be an expansion of the uterine tissues. This was cut through, and on passing the hand into the cyst the foetus was found lying with its head in the upper part. It was removed, the cavity sponged out, and the placenta left untouched. The upper part of the incision was closed by sutures, and the lower left open, the whole being dressed with carbolized oil. The patient died thirty-one hours after the operation. The author gave a minute report of the cyst and its appendages made by Dr. Snow Beck.

ART. 229.—On a Case of Extra-Uterine Pregnancy.¹

By WILLIAM ROSS JORDAN, M.R.C.S.

(Medical Times and Gazette, May 24.)

The woman, aged twenty-nine, was a patient in the Birmingham Hospital for Women. In April, 1872, she had inflammation of the bowels, which threatened her life. In July or August she first felt the child, and in September she expected and prepared for her confinement. From this time she gradually became smaller in size for six weeks, when she fancied she was in labor, being in great pain for three or four days. After that she had frequent shivers and a cold sensation in the abdomen. On December 13th a swelling in the abdomen, not larger than in ordinary pregnancy at six months, was discovered fluctuating a little towards the left side, and on deeper examination a round mass like the placenta, between the umbilicus and pubes, and a harder projection to the upper and left border of the tumor. The cervix uteri was pushed up to the right side. The sound, penetrating three inches and a half, pointed to the right groin, and moved the round body felt in the abdominal examination. The recto-vaginal pouch was occupied by a hard, rounded mass. On December 21st a puncture with the aspirator was decided upon, and a quantity of chocolate-colored fluid mixed with white flakes was drawn off. Mr. Ross Jordan, from his examination on this occasion, came to the conclusion that the case was one of extra-uterine fœtation. Two hours afterwards complete collapse came on, and hemorrhage into the cyst or abdomen was suspected. Five hours after the use of the aspirator an incision four inches long was made in the abdominal wall down to the peritoneum, when the cyst with the placenta under it presented. A clot of blood having been removed, the cyst, with a foot near

Read at a Meeting of the Obstetrical Society of London, May 24th.

the external opening, was drawn forward, but the wall of the cyst being thin it ruptured, and through this opening the fœtus was extracted. The placenta was left undisturbed, and the openings of the cyst and the abdominal wall were brought together by sutures of carbolized catgut, leaving an open wound about two inches and a half long, which was covered with a layer of tenax, etc. The patient progressed favorably, and on January 1st two large fragments of placenta were discharged, and on April 10th she came to the hospital looking well, with the wound quite healed.

ART. 230.—*On the Excessive Vomiting of Pregnancy,*

By ALFRED H. MCCLINTOCK, M.D.

(*Medical Press and Circular*, April 30.)

At a meeting of the Dublin Obstetrical Society, Dr. McClintock read a communication on the Excessive Vomiting of Pregnancy, under which title he included all cases where this symptom of the gravid state is so severe and persistent as to threaten the life of the patient. He advocated a resort to the induction of abortion in all these cases, if medical treatment be found unavailing, and the life of the patient endangered. A highly illustrative case was related, where the author recently had recourse to induction—apparently under hopeless circumstances—and saved the patient from inevitable destruction. He took a brief clinical retrospect of the subject, and a list was given of thirty-six cases where abortion had been purposely brought on to rescue the patients from the fatal effects of this excessive vomiting. In twenty-seven of these cases the vomiting was arrested and the patients perfectly recovered; whilst in nine instances, although the vomiting was stopped, still ultimate recovery did not take place, partly in consequence of the operation having been too long delayed, and partly from the intervention of some complication (*e.g.*, diarrhoea, hemorrhage, puerperal fever, biliary calculus, etc.) not fairly ascribable to the operation itself. The author cited fifty cases (from various authentic sources) where death had actually taken place from the persistence and uncontrollable severity of the sickness. With reference to the etiology of the symptom, he briefly adverted to each of the theories that had been put forward to account for its production, and showed their inapplicability to the great majority of cases; and he completely refuted the notion (so strongly cherished by Dr. Graily Hewett) that some displacement of the gravid uterus was the cause of the vomiting in every instance. He was at pains to distinguish between the vomiting that occurred in pregnancy (from some concurrent disease), and the true vomiting of pregnancy; and whilst enforcing extreme caution in the former class of cases, before any recourse be had to artificial abortion, still he thought that this alternative measure might be justifiable in some cases of this description, and referred to instances in his table, in support of the opinion.

ART. 231.—*On the Systematic Examination of the Abdomen, with a view to Rectifying Malpositions of the Fœtus during Labor.*¹

By ARTHUR EDIS, M.D., M.R.C.P.

(*Medical Times and Gazette*, Jan. 11.)

In bringing the subject prominently before the Society, it was not so much with the idea of advancing any novel mode of procedure as of inculcating more earnestly the universal adoption of this simple expedient, which, Dr. Edis felt, would tend materially to diminish the large mortality annually occurring in Great Britain from accidents of childbirth. It might well be advocated by our systematic authors and clinical teachers, and every student should be

¹ Read before the Obstetrical Society of London, Dec. 4th, 1872.

taught to consider it his duty, to examine carefully the position of the fœtus in utero on first visiting his patient in labor. Dr. Barnes, in his "Lectures," states: "A head presentation is the type of a natural labor; it follows that to obtain a head presentation is the great end to be contemplated by art; yet delivery by the feet is almost invariably practised when turning has to be accomplished. Why is this? The answer is not entirely satisfactory. It rests chiefly on the undoubted fact that in the great majority of instances, at the time when a malpresentation comes before us, demanding skilled assistance, turning by the feet is the only mode of turning which is practicable." The patient herself often in transverse presentations notices that she has carried this child differently from the others, and yet the attendant fails to utilize the hint until too late. The process of external version Dr. Edis described as very simple. With the patient on her back and the knees drawn up, a little experience will soon enable the practitioner to detect the position of the fœtus; and by turning the patient on her side, and making pressure and counter-pressure on the head and breech, rectification of any abnormal position may readily be accomplished. He quoted from Dr. Richardson's pamphlet the chief advantages to be derived from the practice. The diagnosis of the fœtal position can readily be accomplished before the membranes are ruptured, and the examination thus conducted can be made with less discomfort to the patient and less trouble to the physician than attend a vaginal examination. As regards the treatment of obstetric cases, version can be performed before labor begins, and it can also be performed during labor with much less danger to the mother and the child than is possible by any other method. Cephalic version can by this method be performed as easily as either podalic or pelvic version. In cases of placenta prævia we can interfere at a very early stage of the labor, and in cases of prolapsed funis we can terminate labor earlier than if we were obliged to wait until the os uteri was dilated enough to introduce the hand. The same advantage is also evident in cases of accidental hemorrhage and of convulsions.

ART. 232.—*On the Causation of Acquired Flexions of the Uterus and their Pathology.*¹

By CHARLES SQUAREY, M.D.

(*Medical Times and Gazette*, Jan. 11.)

The author's object in the paper was to explain why, in two cases, the same causes and conditions apparently existing, an ante flexion is found in the one case, a retro flexion in the other. Having shortly noticed the anatomical relations of the uterus, the author called special attention to the rising and falling of the uterus in the pelvis in different positions of the body, and to the alteration in the direction of the axis as it so rose and fell, pointing out that in whatever plane of the pelvis the uterus might be situated, its axis was invariably at right angles to that plane; and he showed (referring to drawings) that the axis of the uterus varied considerably in these different positions, looking when low down almost in an opposite direction to what it did when high up, and consequently that the direction the fundus uteri took in a flexion depended entirely on the situation of the uterus in the pelvis at the time that the cause producing it came into action. Thus when an ante flexion is produced, the uterus is situated high up in the pelvis, occupying its normal position, the axis being forwards, so that any force striking it from above would impinge on the posterior and upper surface of the fundus, and so force it forward and produce ante flexion; that when a retro flexion is produced the uterus has from some cause sunk more or less deeply in the pelvis, and has its axis directed more or less backward, so that any force striking it from above would impinge on the anterior and upper surface of the fundus. As a proof of the correctness of this view, reference was made to the predisposing and exciting causes

¹ Read before the Obstetrical Society of London, Dec. 4th, 1872.

of flexion, as described by Dr. Graily Hewitt. Antelexion is found to be much more common in young adults and in the virgin state, while retroflexion is much more common in older women and in women who have borne children. Again, when retroflexion exists in virgins, there is almost invariably a history of depressed general health, and there exists relaxation of all the tissues. In speaking of the pathology of flexions, he especially referred to those cases in which a sudden strain causes a flexion. What, in such cases, keeps the uterus in its flexed position? When retroflected, the pressure of the intestines explains it; but this does not apply to antelexion. The author believed it to be due to loss of tone of the uterine tissue, the loss of tone being due to some bruising of the uterine fibre, with some slight effusion of blood into its tissue.

ART. 233.—*On the Production of Presentations of the Face.*

By J. MATTHEWS DUNCAN, M.D.

(*Transactions of the Edinburgh Obstetrical Society*, 8vo. pp. 445, 1872.)

Dr. Duncan aims to prove that this form of presentation does not result from impinging of the occiput upon, and arrest of progress by, the pelvic brim. He remarks: "It appears to me to be highly probable that the chief cause of face cases, is obliquity of the uterus in any direction, insuring a curvature of the genital canal at the brim of the pelvis; that this cause operates when the forehead of the child is placed near the concavity of the curved canal, or nearest the line of the propelling force; and that the *dolicocephalous* form [of the fœtal head] will greatly favor the transformation under these circumstances of a vertex into a face case."

ART. 234 — *On the Influence exerted by Chloral on the Pain of Parturition.*

By E. LAMBERT, M.D.

(*Transactions of the Edinburgh Obstetrical Society*, 8vo. pp. 445, 1872.)

Dr. Lambert records eleven parturient cases in which the hydrate of chloral was freely used. He remarks of this remedy, "As the hypnotic of the first stage, chloral stands unrivalled; we have only to remember that opium, our only sure refuge, must be administered with the knowledge that we are conspiring, though for a higher end, against the course of labor." We give a general summary of the cases to show the effects produced.

1. Age, twenty-five; second pregnancy; chloral could not be retained more than a few minutes, either by the stomach or rectum.

2. Age, twenty-two; primipara; slept between pains; sometimes answered questions when apparently unconscious; appeared to know when the head was delivered, but when awake five hours afterward, seemed to have forgotten all about it.

3. Age, twenty-six; primipara; slept in intervals; pains not very severe; not fully conscious more than two-thirds of the duration of each; said that she experienced great relief.

4. Age, forty; tenth pregnancy; pains scarcely at all alleviated; felt very dizzy after second dose; slept well after delivery.

5. Age, eighteen; primipara; two doses of ʒj each; slight delirium; very little exhibition of pain.

6. Age, thirty-four; eighth pregnancy; twin birth; chloral with second; vomited frequently; dead fœtus delivered with forceps under chloroform.

7. Age, nineteen; primipara; fœtus 6½ months; ergot ʒj, and chloral ʒj given conjointly; appeared to neutralize each other.

8. Age, twenty-seven; second pregnancy; ergot and chloral as in the last case; marked cerebral disturbance; no relief from suffering; breach presentation; child dead.

9. Primipara; anæsthesia complete for about half an hour.

10. Age, twenty-four; second pregnancy; made no complaint at the passage of the head, and remained unconscious about forty minutes afterwards; then became somewhat delirious and talked a great deal until she fell asleep.

11. Age, twenty-three; primipara; condition of perfect quiet; pupils rather large, but perfectly contractile; labor arrested with the os fully dilated; no contractions for some five hours; forceps used under chloroform.

Dr. Lambert regards chloral as "an agent of great value in the relief of pain during parturition." He recommends that it should be administered in doses of 15 grains every quarter of an hour until some effect is produced. Some patients, he says, will require drachm doses, and it is better to produce an anæsthetic effect by zij , given in the space of two hours, than zj given singly. He believes the remedy to be chiefly adapted to the first stage of labor for the relief of pain from uterine contraction, although it has been proved to produce anæsthesia throughout labor, under favorable circumstances.

ART. 235.—*Mechanism of the Expulsion of the Placenta.*

By WILLIAM LYON, M.R.C.S.

(*British Medical Journal*, Dec. 14, 1872.)

Mr. Lyon states that he has been unable to learn anything on this subject from books, but that from careful observation he is satisfied nature observes a particular form in the expulsion of the placenta. In most cases of detached placenta where undue interference has not been practised, he adds, its lower part will be found lying in the cavity of the pelvis, and its upper more or less above the brim. When the uterus contracts, the placenta is folded upon itself, with sometimes the uterine and sometimes the foetal surface in contact, and the folds always longitudinal or in the direction of the length of the passages. The double mass is then expelled with its two edges foremost, and the part which first passes the os vaginae is the point where the two edges meet in forming the double.

The mechanism displayed in this process must convince every one of the propriety of withholding all interference, "except what may contribute to uterine contraction—the only admissible moving power." The adaptation of the mass to the shape of the passages, and its consequent facility of egress, will be more apparent if we contrast the case with one in which the protrusion is effected by pulling the cord. Under such circumstances, the placenta is brought through the passages in the form most certain to offer resistance, and is protruded like a plug. The irritation caused by this treatment may raise a pain, which may assist in its expulsion; but it is remarkable how much force is often required to effect that purpose, if the placenta be of large size. Cases may occur, however, which may seem to contradict my statement. We may sometimes feel the placenta advancing in the form of a smooth ball, by purely uterine effort; and may be unable to detect the edge of the mass; but, on particular examination, we find that the insertion of the cord is up in the cavity of the uterus, and that the membranes are still adhering to the edge of the placenta. The situation of the insertion of the cord proves that the presenting part must be the edge of the placenta; and, if we wish for further proof, it will be obtained by tearing the membranes with our finger-nail, and converting the case into an ordinary natural one. If the expulsion take place before we can accomplish that, as is sometimes the case when the membranes are strong, we can take the most prominent between our finger and thumb, and retain our hold till it is completely protruded, when we will be quite sure. We find also, in cases in which the whole mass is brought into the pelvis by traction of the cord, that it will be expelled, if left to uterine contraction, in the regular way, and not otherwise; whereas, if the traction be continued till the completion of the process, the part which is first protruded is that into which the cord is inserted. Under the same circumstances, also, if it be necessary to help the pains, we effect our purpose most easily by reaching the edge of the placenta

with our finger. and using a little pressure on it, so as to form a natural folding. It will then be in the most favorable position for being expelled, whether it be left to the action of the uterus. or assisted by pulling the cord.

"We must look on this subject as something more than mere matter of curiosity, because it affects the management of the placenta—a very important part of labor. The temptation to pull the cord, both when there are no pains, and when they are not sufficiently strong, is the cause of much rough treatment; and such conduct can only be defended on the ground that it tends to insure contraction of the uterus. But surely such a state is more certain and less painful when induced by the natural effort, or by manipulation of the uterus in the abdomen."

ART. 236.—*Hydrate of Chloral in Puerperal Convulsions.*

By ALEXANDER MILNE, M.D.

(*Transactions of the Edinburgh Obstetrical Society.* 8vo. pp. 445, 1872.)

A woman in labor with her fourth child, and progressing towards conclusion, was frightened by the noise of a falling body, and went into a convulsion. The child was born, and uterine action finally terminated, but still the fits continued at short intervals. Sixty grains of the remedy were given, and no cessation of eclampsia took place, until about fifty minutes were passed, when the patient fell into a heavy sleep which lasted eight hours. She awakened confused, but free from headache or sickness, and made a good recovery.

Sir James Y. Simpson believed that it was the first case of puerperal convulsions in which hydrate of chloral had been employed.

ART. 237.—*Case of Puerperal Tetanus.*

By W. CRAIG, M.B.

(*Transactions of the Edinburgh Obstetrical Society.* 8vo. pp. 455, 1872.)

The subject of this rare disease was aged thirty-seven. She had previously given birth to seven children; and made good recoveries after each labor. Her eighth child was delivered by a midwife, who failed to remove the placenta, which was retained by inertia of the uterus. This occasioned violent hemorrhage, and Dr. Craig was called in. Case made fair progress until the ninth day, when tetanus set in; with opisthotonos on the tenth, and the woman died in forty hours. She was treated with tincture of Indian hemp.

From the discussion which followed the reading of Dr. Craig's paper, it would appear that puerperal tetanus, especially at full term, as in this case, is exceedingly rare in this country. Like traumatic tetanus, it is much more prevalent in the torrid than the temperate zone.

ART. 238.—*Remarks on Pelvic Peritonitis and Pelvic Cellulitis, with Illustrative Cases.*

By LAUCHLAN AITKEN, M.D.

(*Transactions of the Edinburgh Obstetrical Society.* 8vo. pp. 455, 1872.)

It will be seen by the title of this paper that Dr. Aitken adheres to the old phraseology, instead of adopting the *perimetritis* and *parametritis* of Dr. Matthews Duncan, believing it much less confusing than the latter. He remarks: "The terms show to any one at a glance the nature of the affection, whether it is inflammation in the cellular tissue, or serous membrane of the pelvis, and do not limit the seat of the disease to the immediate neighborhood of the uterus, as I maintain the words *perimetritis* and *parametritis* must do."

With regard to the traumatic origin of pelvic peritonitis, the author says:—

"Among determining cases of the traumatic variety I may mention the use of the tangle-tents to dilate the cervix, . . . cutting operations on the uterus, the excision of polypi, the application of solid nitrate of silver to the interior of the womb, or of caustic potash to the cervix, and the wearing of an intra-uterine pessary, which have all proved the exciting causes of such cases; and among others which have been mentioned, and which we can readily conceive may have produced the inflammation, we find recorded venereal excesses, injections of fluid into the uterine cavity, and chancres on the cervix."

With regard to the differential diagnosis between affections of the serous membrane and cellular tissue of the pelvis, Dr. Aitken remarks:—

"It is to the physical signs we must chiefly trust to guide us correctly; and certainly I can confidently say, that there are few more difficult points in physical diagnosis than this, the difficulty being in many cases greatly increased by the fact, that unless under chloroform, the combined internal and external manipulations necessary to satisfy us, is usually at first too painful for the patient." He does not agree in opinion with Dr. Gaillard Thomas, of New York, as given in his work on the Diseases of Women, and says that, "in some cases, his statements would answer for both complaints, while in many others, they might be reversed without impropriety.

"In by far the greater majority of cases of pelvic cellulitis, we find on internal examination, that the induration, or swelling, is on one or other side of the uterus, and that it is only very rarely that the whole roof of the pelvis seems blocked up by the hard, stony mass, so common in cases of pelvic peritonitis. The tumor in most cases of cellulitis is found principally in one or other of the iliac fossae, and apparently closely connected to the iliac bones, or, if it has not advanced so far, to the pubes; while the tumor, if felt at all through the abdominal walls in peritonitis, is usually more in the mesial line, or if situated laterally, does not by any means seem so intimately blended with the bones. An important point of the diagnosis of pelvic cellulitis, as well as of pelvic peritonitis, is the immobility or fixation of the uterus—an immobility which, in many cases of peritonitis when it is fixed all round, may be said to be absolute, while in cellulitis it rarely if ever happens that the fixation is so complete.

In cellulitis the uterus is usually pushed to the opposite side of the pelvis from that occupied by the phlegmon, whereas in some cases of peritonitis, the body and fundus of the womb are so completely lost or enveloped amidst the exudation, that it is only by the use of the sound, when such a use is justifiable, that we can determine its exact position in the pelvis." (p. 100.)

As a means of depletion in these affections, Dr. Aitken prefers leeches around the anus, to applying them through a speculum, to the cervix, objecting to the use of this instrument on account of the hot and irritable condition of the vagina. He recommends greater depletion in the former than latter of the two diseases; and to relieve the suffering of either, but particularly the peritonitis, has greater faith in opium than any other anodyne, using it chiefly by suppository and hypodermic injection, in the latter case employing the bi-meconate of morphia, gradually increased from quarter-grain to a grain, or more, twice a day. To allay vomiting he uses ice, dilute hydrocyanic acid, bismuth, oxalate of cerium, charcoal, cherry-laurel water, lime-water, blisters, opium, and the spinal ice-bag. He quotes from Bernutz, who very highly recommends conium, as a narcotic to the genital organs, given in full doses, so as "to produce slight derangement and a kind of hallucination."

ART. 239.— *On Vaginal and Uterine Prolapses.*

By Professor E. MARTIN.

(*Berliner Klinische Wochenschrift*, 30, 1872; *Schmidt's Jahrbücher*, No. 1, 1873.)

It is very necessary to distinguish the uterine prolapse which depends on sinking of the whole organ, from the apparent prolapse due to elongation of the neck of the uterus, especially the vaginal portion, although, indeed, these two

conditions may occasionally be associated. Simple prolapse of the uterus occurs less frequently than prolapse of the womb and vagina. It has been denied by Hohl that the uterus is supported by the vagina; the special supports of the uterus are the sacro-uterine and pubo-vesico-uterine ligaments, which contain abundant muscular fibre; the broad and round uterine ligaments, on account of their position and laxness, are not fitted for supporting the uterus when the subject is in the erect position.

The most frequent form of prolapse is undoubtedly a result of a persistent depression of the anterior wall of the vagina, caused through swelling during pregnancy. This first appears in the vaginal entrance, or in front of this, as an oblique folded tumor; there is commonly found, in addition to this, an elongation of the neck of the womb, as a consequence of imperfect retrogressive changes; the further development of the anterior vaginal prolapse may be associated with the formation of a cystocele. With this first form of prolapse, the elongation of the cervix uteri affects more frequently the supra-vaginal portion; this elongation is sometimes wanting, whilst in the course of time, through dragging of the sacro-uterine ligaments, it may attain a true sinking of the whole uterus; so that, although this occurs very rarely, even the fundus of the uterus may be felt through the vaginal walls in front of the entrance to the vagina. This seems to occur especially when this form is associated with retroflexion or retroversion of the uterus.

Of less frequent occurrence is the second form of prolapse—namely, prolapse of the posterior vaginal wall, through shrinking of a cicatrix of the perineum and inferior portion of the posterior wall of the vagina, also as a result of perineal laceration leaving the rectum intact. Here the uterus may remain in its usual position or may be depressed in association with an anterior vaginal prolapse. The perineum and posterior wall of the vagina afford no kind of defence against prolapse of the womb and anterior portion of vagina; and even when there has been deep laceration of the perineum, with destruction of the lower end of the recto-vaginal septum, vaginal and uterine prolapses rarely occur. On the other hand, prolapse of the lower portion of the posterior vaginal wall is frequently associated with rectocele. This form of prolapse may occur as well alone as also in association with the first or third form. Sinking of the posterior portion of the vagina is of very rare occurrence as a primary condition, although it is frequently met with in cases of long-standing prolapse. The third form of prolapse is originally observed partly with well-marked retroflexion of the womb, partly with ascites or with adherent ovarian tumors and other morbid growths in the pelvis. The space of Douglas then seems to be unusually deep, and forms a pocket over the posterior part of the vagina, into which a loop of intestine may slip and thus constitute, as hernia vaginalis posterior, a dangerous complication of parturition. With this prolapse of the vagina, the womb is gradually dragged downwards; more frequently, however, the uterine prolapse precedes.

A fourth form of uterine prolapse depends upon an exclusive elongation of the vaginal portion which protrudes as a cone-shaped body. This may occur in children, tall girls, and pregnant women; it is frequently a result of inflammation of the vaginal portion, particularly the inflammation caused by gonorrhoeal infection; whether it can be produced through mechanical irritation has still to be made out. Sometimes the mucous membrane and submucous layer of the cervix uteri is so swollen and hypertrophied that they protrude from the os; if the os be compressed laterally an ectropion-like protrusion of the lips is produced, when this is not the case one meets with the so-called penile elongation with external protrusion of the mucous membrane of the canal.

With regard to etiology it seems questionable whether there be general disposition to prolapse, as for instance, through laxness of the tissues. The most frequent cause is want of care during the lying-in. A case of prolapse from simple senile shrinking of the tissues has never been observed by Professor Martin. The symptoms of genital prolapse vary according to the degree and the duration of the affection, and also according to the existence or absence of complications with lesions of the rectum and bladder and with inflammation and ulceration. The diagnosis cannot always be easily determined; digital

examination is often insufficient, and it becomes necessary to use the uterine sound; the relation of the urinary bladder and the rectum to the prolapse should always be inquired into. Only in rare cases does a prolapse disappear spontaneously, especially when inflammatory lesions are present. An old prolapse may disappear during pregnancy, and also on the elevation of an ovarian cyst adhering to the uterus. The prolapsed portions are much exposed to injury during parturition. As prophylactic measures, lying-in-women should be forbidden to exert themselves and to get about too early; besides all conditions are to be avoided which may prevent the proper retrogressive changes in the internal genitals.

The treatment is usually commenced by returning the prolapsed portions; this, however, is a proceeding not always free from danger, especially when the uterus has been fixed by inflammatory adhesions or encapsuled exudations; one should therefore in all cases where signs are present of inflammation in the neighborhood of the uterus, postpone all attempts at reposition until the inflammation has quite ceased, the patient in the mean time being kept in the horizontal position and treated by local applications of lead lotion or of a solution of sulphate of copper. The smaller ulcerations generally heal after reposition, an attempt at radical cure through medicinal treatment seldom succeeds. The old operations also, such as episiorrhaphy, kolpodesmorrhaphy, seldom lead to a permanent good result. The removal of an elongated vaginal portion seems to be perfectly justifiable when the elongation is of long standing, but still when a prolapse of the anterior wall of the vagina exists, the shortening obtained by an operation is only temporary. The proceedings of Sims, Emmet, and Simon consist really in the formation of a pouch, in which the vaginal portion can be well retained, and which serves to hinder further sinking. With the proceeding of Sims and Emmet retroversion is produced, and with that of Simon anteversion of the uterus. With the elongation of the female genitals described as the first form of prolapse, Sims's method can have no permanent results, because the anterior wall of the vagina also has lost its support, and has generally fallen together with the urinary bladder. With exclusive prolapse of the lower portion of the posterior wall of the vagina, the excision of a sufficiently large fold from the protruded parts will have a satisfactory result, provided a rectocele has not already been superadded. In cases of prolapse dependent on dilatation or depression of the space of Douglas, no good results are to be expected from any operation on the vagina. Under such conditions the treatment is often limited to the use of a pessary. With the first described and most frequent form of vaginal and uterine prolapse a stalked pessary answers excellently. Cleansing injections of aqua picea or of aqua creasoti are indispensable, and after six months the pessary ought to be renewed. In the rare cases where reposition is impossible in consequence of adhesions, all that can be done is to recommend a T-bandage carrying a pad provided with a caoutchouc sac.

ART. 240.—On Rheumatoid Manifestations of the Puerperal Conditions, and of Infectious Puerperism.

By M. QUINQUAD.

(*Gazette Médicale de Paris*, Nos. 41, 45, 47, 52, 1872.)

Symptoms.—Several days after delivery, the woman becomes slightly feverish and remains so for a long period, in the course of which various phlegmasia are manifested. One of these is arthritis. This affection generally commences insidiously and at first often escapes notice.

In some cases, however, the disease commences as an acute puerperism and is accompanied by different lesions, as metritis, angeioleucitis, peritonitis. As the febrile phenomena become less severe, morbid changes are observed in the joints.

The patient complains of articular pains often localized in one joint, generally the knee.

The joints swell and become painful on pressure. Movements can scarcely be made, and the limb remains immovable in a position of demi-flexion.

The surface of the swollen joint is of rosy red color.

The presence of a more or less abundant effusion may be distinctly made out; and, if a puncture be made, a very fetid purulent fluid may be removed.

The parts around the affected joints are inflamed and indurated, a condition seldom met with save in purulent arthritis.

The effusion may be gradually absorbed when treated by blisters or compression. It generally takes several months for the joint to regain its normal condition.

Inflammatory thickening and stiffness exist for a long time, and also tenderness of the joint when passive movements are made. There is, in all cases of this kind, a great tendency to ankylosis.

After a treatment lasting for several months and consisting in the use of revulsive applications and of immovable splints, one may succeed in more or less completely restoring to the joint its proper functions.

The affection, however, is often followed by persistent pain and slight stiffness of the affected joints which impedes walking.

These morbid manifestations have a certain gravity, and the prognosis ought to be well considered.

Is this affection rheumatism?

The lesions have none of the attributes of the rheumatismal affection, neither its mobility nor its febrile phenomena, its sweats nor the frequency of cardiac or other visceral lesions. Besides, in the most cases, there are no antecedents pointing to rheumatism, and no rheumatic symptoms have preceded or followed the arthropathies.

Is it necessary to admit arthritis of a scrofulous or similar nature?

In the antecedents one generally finds nothing to justify such a view.

One must conclude then that these articular localizations are rheumatoid, that is to say, that they present a certain aspect which resembles that of rheumatic lesions but have a different nature.

These arthropathies are always developed during the course of an attack of infectious puerperism.

But when a phenomenon is presented more or less frequently in the course of a disease, it is regarded as a sign of the primary morbid condition; in the same way we say these articular lesions are the manifestations of puerperism.

This manner of regarding the phenomena is simple and conformable to the laws of general pathology. Others, however, think differently, and imagine that these articular alterations form a morbid entity, rheumatism. Thus a diathesis has been created as an addition to the attributes of an infectious condition.

All clinical facts connected with the two affections oppose such an interpretation.

1. In rheumatism there are one or several arthritic attacks dependent on hereditary rheumatic antecedents, and on special conditions of humidity.

In puerperism all this is wanting and if there should be a coexistence it must be regarded as an accident.

2. In rheumatism the arthritides are sudden, rapid, mobile, irregular and inconstant; there is a phlegmasial flux rather than a free phlegmonous arthritis. A joint swells and becomes tense, and the skin takes on a special appearance; afterwards all this vanishes, to make its appearance in another point.

In puerperism the articular lesion is fixed and tenacious; one does not meet with the rheumatismal trio, mobility, irregularity, instability. The articular determination may be frequently repeated, but the affection of one joint does not cease suddenly at the same time that other joints are first attacked.

The physiognomy of arthritides is different in the two diseases.

3. In rheumatism, after the first attack the physician is put on his guard and informs his patient that there may be one or several consecutive attacks.

When once an attack of puerperal arthritis has been cured, the patient is not liable to a repetition of the disease when exposed to the causes of rheumatism.

4. In rheumatism cardiac manifestations are the rule. In puerperism they occur exceptionally.

ART. 241.—*Remarks on a New Midwifery Forceps.*

By FRANCIS VACHER.

(Reprinted from the *Liverpool and Manchester Medical and Surgical Reports.*)

The forceps devised by Mr. Vacher is a modification of the short forceps. Having tested its utility, and found it has more than answered his most sanguine expectations, he brings it before the notice of the profession.

The instrument may be described as consisting of two blades or *glams*, essentially the same as those of ordinary short forceps, except that the lower blade is slightly shorter than the upper, being adapted to lie within it when the instrument is closed. At the lower extremity, or butt, of each blade, bent at an acute angle to its convex surface, is a handle, rounded off and slightly curved like a small horn. The handles are of black wood, but the bases, which are perfectly flat, are faced with steel, as are also the parts directed towards the blades, the steel being continuous with the blades. Along one edge of the handles' bases, and extending into the shanks of the blades, is a stout hinge, and near the opposite edge is a strong steel snap.

The measurements are:—

Length of the whole instrument, $8\frac{1}{2}$ in.

Interval between the blades at the widest part, $3\frac{1}{2}$ in.

Interval between the points of the blades, 2 in.

Greatest width of blades, $1\frac{1}{2}$ in.

Length of each fenestrum, $4\frac{1}{4}$ in.

Length of each handle, 2 in.

Depth " 1 "

Breadth " $\frac{3}{4}$ "

Length of hinge, $1\frac{1}{2}$ in.

The edges of the blades and fenestra are neatly bevelled off, and the upper or outer blade projects beyond the other sufficiently to prevent the possibility of the soft parts of the mother being caught. It should be mentioned also that the blades, when the instrument is closed, only lie perfectly close at the lower margin; along the whole length of the upper margin they are separated about an eighth of an inch—an arrangement necessary to enable the blades to pass one another.

The instrument is calculated, as are other short forceps, for delivery of the head when it is in the cavity of the pelvis, and when it has in great part emerged from the pelvic canal and rests on the perineum, and the circumstances which call for its use are the same as those demanding the application of the ordinary short forceps, that is to say, arrest of the head at the pelvic outlet, from inertia of the uterus, from slight disproportion, from mal-position, etc., or from any condition of the mother or child likely to peril either in the event of delivery not being completed.

The method of proceeding with the instrument is as follows: The patient being presumed to be on her left side, with the thighs flexed upon the abdomen; the operator, having the forceps (closed and well warmed and oiled) in his right hand, introduces two fingers of his left hand through the ostium vaginae. The ends of the blades are then slipped along the palmar surface of the fingers, conducted to the head, and, guided by the fingers as far as they will reach, passed between the head and the hollow of the sacrum, the blades' ends being made to hug the head all the way. The ends of the handles, which of course point directly towards the anus, are now slowly and carefully separated with both hands, until their bases are in exact apposition, when the instrument locks of itself. The index finger of the left hand may now be passed into the rectum,

and the margins of the blades felt to the right and left, and those using the instrument for the first time might satisfy themselves of the position of the blades, when introduced, by this simple means. If the forceps has been skillfully applied, the handles, when locked, will be in a line with the transverse diameter of the pelvis. The two handles united are next grasped like a corkscrew handle, and traction applied in the ordinary way. When the head has been drawn down so far that the finger introduced into the rectum can hook on to the right or left supra-orbital arch and retain it in position, the forceps should be unlocked, folded, and carefully removed.

The old rules—that forceps be introduced during an interval, great care taken that no soft parts or hair are included in the lock, and that traction be made during the pains, where there are any, and intermittingly like pains where there are none, and always in the direction of the axes of the pelvis—should be borne in mind by any one using this instrument, the same as if he were using another.

In conclusion, Mr. Vacher submits the following propositions regarding the instrument:—

I. That it is smaller, lighter, and more portable than any other form of forceps.

II. That it is altogether a different instrument to the long forceps, could not be confounded with it by a patient, and is as little likely to alarm the most timid as the whalebone fillet.

III. That it can be more easily and quickly applied than any other form of short forceps.

IV. That it may be applied without subjecting the patient to the preparations considered necessary before using the ordinary forceps—placing her across the bed, bringing the hips to the bed edge, emptying the bladder, etc.

V. That it may be introduced, and the blades brought into position and locked, almost without the patient being conscious an instrument is being used, and certainly without the pain caused by the pressure on the vagina and labia required to keep the blade ends of the ordinary forceps in close contact with the head during introduction.

VI. That it cannot fail to lock, and does so without the metallic clashing almost impossible to avoid when other instruments are used.

VII. That it cannot slip.

VIII. That with it, as with no other forceps, traction is effected without compression. This is a great advantage, for pressure on a child's head during delivery often brings on convulsions which may be fatal, sometimes paralyses the portio dura, sometimes permanently impairs the brain and produces idiocy.

IX. That the simple transverse handle is better adapted for traction, less cramping to the hand, less fatiguing to the operator than any other, not excepting the handles with short cross stops.

X. That it is a vectis no less than a pair of forceps, and when folded may be used as that instrument to assist the rotation of the head, correct mal-positions, and as a lever-tractor, the operator making a fulcrum of his left hand, and drawing with his right.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 242.— *On Complete Amenorrhœa.*

By DR. MORITZ ALSTÄDTER, of Pesth.

(*Wiener Medizinische Presse*, xii. 28–30; *Schmidt's Jahrbücher*, No. 9, 1872.)

In contrast to those cases in which menstruation occurs once or several times, and then for a long time or permanently ceases, Dr. Alstädter refers to those of complete amenorrhœa in which menstruation has never occurred, and even molimina mensturalia has never manifested itself. In cases of this kind the amenorrhœa occurs as a result of organic defects in development; as a

result of impaired innervation of genital organs it does not very often come under observation.

This form of amenorrhœa may be conveniently divided into two classes:—

1. Amenorrhœa due to morbid increase of the functions of the nerves ending in the genital organs.

Since according to Bernard and Hermann irritation of the peripheral terminations of the vascular nerves may cause contraction of arteries, and that the current of blood may thus be completely suppressed, a similar irritative process may very well explain absence of regular ovulation through deficiency in the supply of blood.

2. Amenorrhœa due to morbid excitation of the vaso-motor centres or of some portions of the brain.

The view that amenorrhœa may be due to suppression or diminution of innervation or the functions of the vaso-motor nerves of the genital organs does not correspond to the results of the latest physiological investigations, as division of these nerves results in a total abolition of their functions, a relaxation of the arterial muscles, dilatation of the arteries and increased flow of blood to the organs in question, and therefore a condition favorable to irritation is established. One cannot then regard torpor of the vaso-motor nerves of the genital organs as a cause of the amenorrhœa. Probably the sympathetic nerves of the ovaries, like so many other sympathetic nerves, contain spinal fibres, and are connected with the cerebro-spinal system, and the diminished excitation of these bodies is to be attributed to changes in these latter nerves. Or one may regard as the cause of the amenorrhœa an irritative process affecting not the nerves of the genital organs, but the vaso-motor centres or the cerebral peduncles, the irritation of which, according to Budge, induces contraction of all the vessels, and thereby the influence of the encephalon on the vaso-motor nervous system may be made out.

Dr. Alstüdter has been convinced by observations of patients that there is always a morbidly increased irritability of the nerves, and no stupor when amenorrhœa occurs as a result of nerve-disturbances, only that at one time this increased irritability affects the vaso-motor nerves of the genital organs, including a contraction of the arteries thus supplied, and at another time has its seat in the vaso-motor central organs or even in the brain, and causes a general contraction of the arteries.

A lady, aged twenty-three years, and who had been married for two years, well built, and presenting very slight signs of previous scrofulosis, had never menstruated: in early years she had suffered much from gastric cramp, and for a year and a half before she came under treatment, from fits of hysterical laughter. On examination no defect whatever of the sexual organs, nor a sufficient amount of blood disease could be found to account for the amenorrhœa; on the other hand, present and previously existing neuroses indicated impaired functions of the nerves of the sexual organs, so that this alone could be recognized as the cause of the affection. The treatment consisted in the administration of saccharated carbonate of iron, and in the use of the chloride of sodium baths, together with a diet chiefly of milk and flesh. At the end of four weeks there was slight *molimina* menstrualia and a scanty discharge of watery blood; at the end of the next four weeks these phenomena were repeated, but in a smaller degree. With continued application of the same treatment there was at the end of the third month a somewhat more profuse discharge of pale fluid, and at the end of the fourth month there was a real sanguineous discharge which lasted for three or four days. The same treatment was still continued. After two repetitions the menstruation again ceased, presumably at the commencement of a pregnancy.

ART. 243.—On the Connection between Menstrual Irregularities and Insanity.

By H. SUTHERLAND, M.D.

(*West Riding Lunatic Asylum Medical Reports*, vol. ii.)

Dr. Sutherland has made a careful inquiry into the condition of the menstrual function in upwards of five hundred inmates of the West Riding Asylum, and has arrived at the following general conclusions :—

1. That in idiocy and cretinism puberty is usually delayed or absent.
2. That in epileptic insanity the fits are generally increased in number, and that the patients frequently become excited at the catamenial period.
3. That in mania exacerbations of excitement usually occur at the menstrual period, and that a state of intense excitement is almost continuous in patients suffering from menorrhagia.
4. That in melancholia, a large proportion of patients suffer from amenorrhœa.
5. That in dementia the patients usually menstruate in a normal, healthy manner.
6. That in general paralysis the change of life frequently occurs early.
7. That very rarely the catamenia reappear in aged insane women after prolonged cessation.

ART. 244.—On the Uterine Flexions, and Versions, and the Mechanical Treatment of Backward Displacements of the Uterus.

By Dr. SCHUTZ.

(*Archiv für Gynäkologi*, Band iv. Heft. 3, 1873; *Gazette Hebdomadaire*, No. 6, 1873.)

1. The normal position of the uterus in a state of vacuity is ante-version or ante-flexion. When a woman stands up the posterior surface of the womb looks directly upwards.
2. Anteversion and ante-flexion ought not to be considered as pathological conditions, except when the uterus is fixed immovably in its faulty position or restricted to the movements impressed on the organ.
3. Thickening or shortening of the ligaments of Douglas (habitual consequences of parametritis) constitute the usual causes of the persistence of ante-version and of abnormal exaggeration of ante-flexion.
4. On the other hand, elongation of these same ligaments (through inertia of the muscular fibres) leads necessarily to retroversion and retroflexion, of which conditions it is the most frequent cause.
5. The line of flexion of the uterus follows exactly the primary anterior or posterior surface of the organ. If the body of the flexed uterus deviate more or less to the right or left, there is almost always a simultaneous rotation of the organ on its axis.
6. Normal anteversion or ante-flexion of the empty uterus, abnormal flexion backwards from posterior fixation, and retroversion and retroflexion from laxity of the ligament of Douglas, are all increased by the pressure of the abdominal viscera.
7. Uterine catheterism does not suffice for enabling one to make out the normal situation of the uterus and the direction of its deviations. Carefully performed bimanual palpation conducts one more surely to a diagnosis.
8. Persistent anteversion and ante-flexion of the uterus cannot be dealt with advantageously save by resolvent means, which tend to remove the exudations binding the womb in its faulty position.
9. Retroversion and retroflexions ought, whilst they remain reducible, to be treated by the aid of the hand and not of a sound; in the majority of cases, how-

ever, it is necessary to have recourse to the intervention of mechanical means destined to maintain the uterus in its normal position (that is to say, in one of slight anteversion).

10. The sole rational means of dealing with a posteriorly displaced uterus is retroposition of the vaginal portion. The innumerable pessaries that have been devised hardly seem to produce this effect. (The author asserts that the vaginal pessary modified by himself does advantageously fulfil this indication, and, he adds, that intra-abdominal pressure maintains the uterus in a state of normal anteversion as soon as the vaginal portion is fixed backwards.)

11. The pressure exerted by the abdominal viscera is not capable of modifying flexion. When in these cases of flexion pain is removed by the retroposition of the vaginal portion, the use of the sound in addition to that of the vaginal pessary may be indicated.

ART. 245.—On Acute Inflammation of the Thyroid Body following Delivery.

By Dr. LAURE.

(*The Obstetrical Journal*, June.)

Dr. Laure read before the Société des Sciences Médicales of Lyons the account of a case of this kind which occurred in his practice. A multipara, aged thirty-four, was safely delivered of a healthy child. On the morrow she had high pulse, hot skin, and sighing respiration; but after repeated and careful examinations none of the organs revealed any disorder. No pain was complained of, only thirst. The tongue became dry, but there were no shiverings. Nine days after there were several accessions of dyspnoea, and the sister said the neck was enlarged. The right lobe of the thyroid was found to be enlarged, hard, and tender on pressure. Respirations were painful, frequent, and hissing. Leeches were applied, but tracheotomy was deemed unnecessary at that time. Afterwards there was a sudden access of suffocation, and the patient died in three or four minutes. At the post-mortem only the thyroid could be examined, and this organ was found to be the seat of localized inflammation, and pus was found here and there. The enlargement of this body had compressed the trachea laterally, so that it barely admitted a goosequill. It was found that the interstitial tissue alone contained pus globules and embryonal cells. The closed follicles did not contain a single leucocyte. Dr. Laure also mentioned the case of a young girl who had thyroiditis following suppression of the menses by cold; but here a cure followed the application of leeches. Dr. Laure thought a simple incision, however much indicated in a collection of liquid, was useless in the presence of diffuse suppuration. Tracheotomy should not be postponed too long.

M. Fochier, in discussing the subject, thought that this acute thyroiditis was due to a septic influence, and related a similar case in which diffuse phlegmon of the limbs followed. Some interesting remarks on operations on the thyroid were made by MM. Chambard, Mollière, Drou, Gayet, and Icard.

ART. 246.—On Tuberculosis of the Female Genital Organs.

By Dr. LEBERT.

(*Archiv für Gynäkologie*, Bd. iv. Heft 3, 1872; *Gazette Hebdomadaire*, No. 3, 1873.)

Localization of tuberculosis in the genital organs of the female has for a long time been regarded as extremely rare; but the works of Repnaud, Grisolle, Bristowe, and of Brouardel, in which last fifty-six cases are analyzed, have proved that this localization is of more frequent occurrence than is generally supposed. Dr. Lebert has studied principally the relations of tuberculization of the genital organs and the functions of these organs. In thirty-three cases

he was able to follow the history of the reciprocal influence of pregnancy and tuberculosis. The following are some of his conclusions:—

"Tuberculization of the internal genital organs in the female may be the principal primary localization, may coincide with pulmonary tuberculization, or finally, be secondary to this.

"The disease described as tuberculization of the neck of the uterus has not been proved: it most frequently represents a caseous degeneration of the epithelium of the cervical glands.

"The influence of pregnancy and of the menses on tuberculosis is shown most frequently between the ages of twenty and thirty years, or rather between those of twenty-five and thirty. It may also be manifested between the ages of thirty and forty years.

"The tubercular process exists in young girls; it may be arrested, but most frequently it takes a fresh development under the influence of pregnancy, usually from the first but sometimes at a late period.

"It is exceptional for females who have previously had tubercles to resist repeated pregnancies; the infants are generally feeble and become tuberculous.

"Pregnancy is most frequently arrested by advanced phthisis, but the initial phases of the tuberculosis follow their course, without being reduced during the period of pregnancy.

"Abortion, pregnancy, and delivery, in three-fourths of the cases accelerate the course of the phthisis. Pregnancy has no marked influence on the localization and form of the tuberculosis. The unfavorable influence of delivery is especially shown in cases where pregnancy has favored the attack of tuberculosis. The women suffering from tuberculosis have very little milk, and usually they are unable to nourish their infants, who are feeble, scrofulous, and, at a later period, tuberculous."

ART. 247.—*On the Treatment of Suppurating Ovarian Cysts by Drainage.*¹

By JOHN J. PHILLIPS, M.D.

(*The Lancet*, December 28, 1872.)

After referring to the recent excellent results following the complete removal of suppurating ovarian cysts, he said cases occurred in which it was found impossible to remove the tumor, or in which, for various reasons, extirpation was considered inadvisable. Under such circumstances, a free incision, and the stitching of the cyst walls to the edges of the abdominal wound, or the introduction of a drainage-tube, would probably be admitted to offer the best chances of success. This note was recorded to point out one source of danger in the treatment by drainage which he had not seen noticed. A case of suppurating ovarian cyst was admitted into Guy's Hospital under his care, and, after consultation, it was decided not to recommend excision. A drainage-tube was introduced, and the cyst daily washed out. The improvement in the patient's condition was most satisfactory. The cyst gradually contracted, so that only a few ounces of fluid could be injected, whereas thirteen pints had been drawn away at first. Six weeks after the operation, however, she was seized with severe abdominal pain, had all the signs of acute peritonitis, and died in a few days. The condition of the main cyst was found after death in every respect satisfactory. On its right side there was a small mass of compound cysts, containing gelatinous material with calcareous degeneration of their cells; but one of the small cysts contained pus, and this was firmly adherent to the mesentery. Its wall was thin and shreddy, and it seemed evident that by contraction of the main cyst such traction had been made on this from adhesion as to lead to thinning of the wall of the cyst, and its ultimate rupture. Pus was found in the peritoneum, and could be made to exude from the small cyst by pressure.

¹ Read before the Obstetrical Society of London.

ART. 248.—On the Cure by Absorption of the So-called Fibrous Tumors of the Uterus.¹

By M. GUENIOT.

(*Gazette Médicale de Paris*, No. 11, 1872.)

1. The cure by absorption of certain fibroid tumors of the uterus ought from henceforth to be regarded as a definitely established fact.

2. The mode of disappearance of tumors is even susceptible of a rapid dissolution; some few months have sufficed in various cases for the complete absorption of very large myomata.

3. In the cases hitherto observed absorption took place during the period of activity of the genital functions; the puerperal state exercises an evident influence only in very exceptional instances.

4. Uterine myomata may disappear without operation in two other ways; either by spontaneous expulsion or by gangrenous destruction or suppuration. But the disappearance by absorption is the only process which is completely exempt from danger, and is always followed by recovery; it will, therefore, be always a proper course to excite this process.

5. Although the attempts made with this end in view have hitherto been almost constantly attended with negative or doubtful results, certain facts, however, justify us in supposing that on this point therapeutics is in the course of progress.

6. As far as one may be allowed to judge from analogy, uterine myomata, in order to be susceptible of absorption, ought to undergo a preliminary fatty degeneration.

7. Finally, after this datum of pathological physiology, the employment of substances that are regarded as steatogenetic, such as arsenic, phosphorus, lead, etc., seems to be particularly indicated for obtaining the above-mentioned result.

ART. 249.—On Endometritis.

By LOMBE ATTHILL, M.D.

(*British Medical Journal*, February 8.)

At a meeting of the Dublin Obstetrical Society, Dec. 14th, 1872, Dr Lombe Atthill read a paper on this affection. It might be defined as a low inflammation of the uterine mucous membrane, with vascular engorgement and implication of the glandular structure of the organ. Sometimes the cervix was engaged. The symptoms of endometritis were pain, leucorrhœa, dysmenorrhœa, menorrhagia, and reflex irritation. Pain was generally referred to one or all of three localities—viz., to the sacrum; to the edge of the false ribs, thence shooting to the shoulder on the left side; and to a point just over the pubes. The second was often almost pathognomonic of the disease. The physical signs of endometritis were: increased length of the uterine cavity; increased size of the same; increased bulk of the whole fundus; augmented sensibility of the uterine mucous membrane; a patulous *os internum*; and often an abnormal sensitiveness of the mucous membrane. In the treatment, palliative measures, including rest, warm hip-baths, mild aperients, and, above all, local depletion, sometimes acted beneficially. The last-named might be effected by leeching, but was far more effectually carried out by puncture of the cervix in one or two places to the depth of an eighth of an inch or thereabouts. Dr. Atthill exhibited a knife designed for this purpose. In severe cases operative interference was necessary; either by injecting fluids into the cavity of the uterus, or by passing up a piece of solid caustic, or by the application of fuming nitric

¹ Communicated to the Académie de Médecine, Paris.

acid, the acid nitrate of mercury, or other active agent. Dr. Atthill considered the application of fuming nitric acid to the interior of the uterus as simple, safe, and painless; and to Dr. Kidd belonged the priority of the adoption in Ireland of the internal application of the acid; while in America Drs. Miller and Marion Sims had previously carried out the same practice. The author advised the preliminary dilatation of the cervix uteri with sea-tangle or spongetent. The anterior lip of the uterus was then seized with a hook, and a stilette armed with a comparatively thick layer of cotton or roll of lint was passed rapidly up to the fundus. Strong nitric acid thus applied seldom caused any pain, and was not followed by any grave consequences, as the injection of even weak caustic solutions often was. In all cases where it was healthy, the cervix uteri should be protected from the action of the nitric acid. To reach all parts of the uterine cavity with the acid, the author had devised an intra-uterine speculum, which could be expanded by means of a screw working through a long handle. The details of three cases of endometritis were given, and Dr. Atthill concluded by a vindication of the method of cauterization of the uterus with nitric acid from the objections raised against it.

Dr. Churchill made some general remarks on granular degeneration of the uterus, and on the harmlessness of the application of strong nitric acid to the uterine cavity.

Dr. Ringland related his experience of the local remedies to which Dr. Atthill had alluded. He considered solid caustic to be a most valuable remedial agent. He had seen injection of iodine followed in one case by a severe attack of hysteria, and from the use of nitric acid in hemorrhoids and to the cervix uteri he had long ago been led to think of applying it to the interior of the uterus.

Dr. Denham had seen the president, Dr. Kennedy, controlling hemorrhage fully twenty-five years ago by passing up such powerful applications as strong nitric acid and butter of antimony into the uterine cavity. He had himself thrown up solution of iron and other strong fluids with safety and success.

Dr. James Little bore testimony to the facility attending the use of Dr. Atthill's speculum.

Dr. Kidd said that Ambroise Paré had applied strong nitric acid to the interior of the uterus, and it had long since been employed in the extirpation of warty growths.

Dr. Byrne believed that nitric acid did not produce a slough in the interior of the uterus.

The President (Dr. Kennedy) mentioned that strong caustics had been used in the treatment of uterine affections since 1840, at least. He corroborated Dr. Atthill's opinion as to the value of local depletion in some cases of endometritis. However, he preferred leeching as a means of carrying this out.

ART. 250.—*On Interstitial Uterine Fibroma.*

By Dr. ABEILLE.

(*Gazette Médicale de Paris*, No. 11, 1872.)

Dr. Abeille gives an elaborate report of a case in which he removed with success a large interstitial fibroma of the uterus, and concludes his contribution with the following remarks:—

"The operation of which I have just given a description is one of those which present the greatest difficulties to be overcome in their performance, even though one might have been previously in a position to give a precise account of the relations of the tumor to the uterine cavity. If, as in the present case, these exact notions are impossible, because the finger cannot in any fashion be carried to the fundus of the uterus, the difficulties are still greater, and one cannot but remain undecided in the face of unforeseen conditions.

"Whatever be the operation that is practised, the dangers inherent in the manual operation to parts which need protection, may generally be avoided when the

eye serves as guide to the hand of the operator. Here the finger replaced the eye as conductor and exploring agent; but the finger unfortunately cannot be passed to all parts, and consequently cannot discover everything; hence an almost insurmountable difficulty.

"And yet this operation was one of those which are imperatively demanded and necessitated by the urgency of the case; for the life of the patient was menaced by profuse hemorrhages, which succeeded each other rapidly, and which nothing could definitely arrest save ablation of the tumor which gave rise to them.

"In a memoir published in 1868 (*Gazette Médicale de Paris*), on uterine fibrous tumors, and especially on intra-uterine fibrous bodies, I endeavored to demonstrate the difference in the symptoms furnished between intra-uterine fibrous bodies attached to the uterus by a more or less elongated pedicle, and those which are not pediculated, but included in a greater or less extent of the submucous layer, or, in other words, interstitial fibrous bodies.

"When the pediculization takes place at the level of, or a little above, the superior opening of the cervix, whatever may be the size of the tumor, a period will certainly arrive at which the uterus, contracting energetically at a menstrual epoch, causes the growth to protrude from the orifice after more or less considerable hemorrhage. When the tumor has passed into the vagina, provided it is still fixed to the uterus by its pedicle, the flow of blood becomes continuous. This, to the practitioner accustomed to the study of these growths, is a sign which indicates an early operation; these are simple cases, and the operation, which consists in cutting through the pedicle, is very easy. It may happen that the pedicle, strangulated by energetic and continuous contractions of the neck, mortifies together with the body of the growth, which is then spontaneously detached. Where the pediculization takes place at a more elevated part of the uterine cavity, even at its middle, the uterus being divided into two portions by a transverse line, the tumor may still be expelled during uterine contractions. For this result to take place spontaneously, more time and more energetic contractions of the uterus are required. In some cases where the cervix is almost completely effaced through the contractions and the inferior segment of the uterus is folded backwards over the tumor like a reversed ruffle. When this has happened, the patient is generally exhausted by repeated hemorrhage.

"The more the pediculization of the fibrous body is raised above the inferior portion of the cavity, and the nearer it approaches to the fundus, the more difficult does it become for the uterus to expel the tumor from its cavity, notwithstanding energetic and repeated contractions. This may be readily conceived, for displacement of the tumor is hardly possible unless the womb becomes completely inverted. When the pedicle is inserted at the fundus of the uterus, whatever be the size and thickness of this pedicle, spontaneous expulsion of the fibroma becomes absolutely impossible.

"The pains may be continuous for a very long period, with or without loss of blood; in these cases, the uterus filled by the tumor, distended, and with its cervix completely effaced, endeavors to free itself by continuous contractions. I have observed a case of this kind: A young woman, from whom I had previously removed two pedunculated fibrous polypi, was seized six months later with acute and almost continuous pains, which were not associated with loss of blood. After a continuance of these pains for fifteen days, and several examinations which enabled me to make out an ovoid tumor connected with the tumor, but on none of which could I distinguish the cervix and os, I fell into the error of supposing that the os was obliterated, and that I had to deal with a degenerated uterus. Finally, I was able to make out the opening into the cervix posteriorly, the uterus being in a state of retroversion. This opening was very small, and the thinned lips of the os were closely applied to the tumor, which was of an ovoid form. I was able to operate upon the patient after having freely incised the neck. On this occasion I had to deal with a colloid plasmoma, which was reproduced very rapidly, and acquired considerable proportions. Seven operations were performed for the removal of repeated growths in eighteen months. The growth was fixed to the fundus of the uterus

by a thick pedicle, which had formed adhesions to large portions of the uterine walls.

"The conditions are different in cases of interstitial growths of the uterus, that is to say, those which are developed behind the mucous membrane and in the muscular or inodular tissue, and which, as they enlarge, push before them into the uterine cavity the mucous membrane which covers them. Wherever be their starting-point, and whatever be the extent of their development, their tendency is to increase and develop, giving rise incessantly to serious symptoms, without any possibility of their spontaneous expulsion.

"As a fibrous polypus with a distinct pedicle, which can at any time be removed, which sometimes is spontaneously expelled from the uterine cavity into the vagina by a process analogous to that of parturition, may, to the exclusion even of its histological constitution, expose its subject to danger in consequence of repeated hemorrhage, with much more reason will an interstitial fibroma be a serious affection.

"This is undoubtedly, of all uterine fibromata, the one which in the same period of time causes more readily the death of the patient by the innumerable hemorrhages to which it gives rise. The sub-peritoneal fibromata which may acquire fabulous proportions in the abdominal cavity are not so dangerous as these, for the simple reason that they do not in the immense majority of cases give rise to uterine hemorrhage, and that, when they excite peritonitic symptoms, they do so from their monstrous size, or from having been associated with some external cause of peritoneal phlegmasia.

"The submucous interstitial fibroma, then, of all uterine fibrous growths, is the most dangerous, from the metrorrhagia to which it gives rise, from the impossibility on the part of the uterus to expel the tumor, from the difficulties in diagnosis when it has not acquired any considerable size, and from the difficulties without number which are associated with operative attempts at enucleation. If an interstitial fibroma commences at the fundus, and gradually extends its roots towards the cervix, a considerable interval of time may elapse before the disease can be recognized even by an experienced hand, and when it can be recognized it may happen that it is impossible to make out by the touch the exact limits of its connection with the uterine walls.

"Serious mistakes in diagnosis have been made by very expert practitioners in consequence of their exploring the uterus between menstrual periods. Thus it is of the highest importance to remember that in all cases where the symptoms lead one to suspect the presence of an intra-uterine polypus, the exploration ought to be made during the menstrual evolution, because it is during this period that the uterus, endeavoring to expel the tumor, pushes it towards the cervix, and causes great dilatation at this region. The more susceptible the tumor of mobilization by reason of its pediculization, the further its advances towards the cervix during this process.

"The so-called migratory polypi owe their facility of advancing towards the os tincæ, of becoming engaged either wholly or partially within the orifice at certain periods, and of returning into the uterine cavity when the cervix retracts, to the length of their pedicles, and to their freedom from adhesion to adjacent portions of the uterus. When the pedicle is long or inserted at the cervical portion of the uterus, the tumor may readily pass through the orifice; when it is not so very long, the tumor is fixed for a time in the orifice, and afterwards ascends for a time. Only polypi of small dimensions, and especially the mucous polypi, can at each menstrual period be expelled into the vaginal cavity to ascend into the interior of the uterus after the cessation of the flow of blood.

"If the researches which I have made are complete, this is the first case of interstitial fibrous tumor of considerable size and included in part of the uterine walls that has been removed by a surgical operation.

"It is certainly more easy for the surgeon, if not less dangerous for the patient, if in the operation of gastrotomy for the removal of a sub-peritoneal fibroma, or even a supra-vaginal interstitial fibroma, section of the uterus be made above the partition, instead of the dissection being carried into the uterine cavity itself for the enucleation of the tumor."

ART. 251.—On Chronic Inflammation of the Cervix Uteri, its Effects and Treatment.¹

By THOMAS MORE MADDEN, M.D.

(*Medical Press and Circular*, February 12.)

In the course of his observations, he said that chronic inflammation of the cervix uteri was the most frequent of all the diseases peculiar to women. Thus, according to Dr. More Madden's experience, one-tenth of the patients that attend the dispensary for diseases of women belonged to this category, and in private practice he found this disease quite as prevalent. Amongst the consequences of chronic inflammation of the cervix uteri, Dr. Madden included endometritis, ulceration and hypertrophy of the cervix, menorrhagia, dysmenorrhœa, vaginitis, leucorrhœa, hysteria, and above all, sterility. The treatment of these diseases he regarded as still vague and unsatisfactory, generally protracted, and frequently unrewarded by the cure of the disease. He considered that this was mainly owing to the constitutional causation of these diseases not being duly appreciated in practice. No one conversant with Medical literature could fail, on comparing the medico-chirurgical publications of the present time with those of any former period, to observe the great prominence now given to the study of uterine affections, and the importance attached to them. The questions that not unnaturally arose were, had these diseases really become more common than was formerly the case? or is it, he asks, merely now the fashion of the day to ascribe all obscure complaints to uterine disorder, as it was formerly to attribute them to "the vapors," or the "spleen," or the more modern "nervous and bilious complaints," each of which was, at one time, so prolific a supposed cause of patients' ailments, and more certainly of physicians' fees? Or have uterine complaints been always as prevalent, though only now discovered by the improved means of diagnosis furnished by modern gynæcological science? Opposite as these doctrines appeared, and warmly as they had been espoused by conflicting authorities, there was, nevertheless, as in most other disputed subjects, some truth, as well as some error, in each of them. Uterine diseases were more commonly met with, as well as more in vogue, above all they were more easily recognized, than was formerly the case. The vaginal speculum was unquestionably the greatest improvement that modern science had contributed to this department of Medical practice. It was as essential in the treatment of uterine complaints, as the stethoscope in the diagnosis of pulmonary or cardiac diseases. But it might be abused as well as used, and for his part he could not approve of the indiscriminate resort to the speculum now so general in all cases of suspected uterine disease, and more especially when occurring in young unmarried women. He had had daily occasion, for some years, to induce as many speculums in hospital and dispensary practice as most practitioners, but yet he never regarded himself as justified in so doing in any case in which the instrument could be possibly dispensed with. Many cases had come under his notice in which patients, having been previously treated for ulceration of the os uteri, insisted on being "examined," and when, as not unfrequently happened, he did not think this procedure necessary, those persons were dissatisfied, and considered themselves neglected. And yet in a large proportion of such cases, by simply paying attention to the general health of the patient, ordering the free topical use of cold water, and enjoining total abstinence from marital relations, all the symptoms would subside, and the invalid would regain perfect health, the *mens sana in corpore sano*, far more completely and rapidly than if the parts had been subjected to the mechanical irritation of repeated examinations with the speculum, and so aided in keeping up that morbid concentration of the imagination on the supposed seat of the disease, which is so common in such cases. But whenever extensive disease

¹ Read before the Dublin Obstetrical Society, Feb. 8th.

of the os or cervix uteri exists, the use of the speculum is, of course, indispensable. Dr. More Madden then described the symptoms of uterine disease, and next described the causes of the prevalence of these affections. Of these, he said: "In considering the causes of chronic inflammation and ulceration of the uterus, and especially of the cervix uteri, undue importance is nowadays attached to the local exciting causes of these affections, whilst the constitutional predisposing causes which I consider as the *fons et origo malorum* are disregarded. This matter is one of considerable practical importance, for if the views herein set forth as to the constitutional causation of local uterine diseases attended by inflammation, ulceration, sterility, and other organic and functional derangements be right, the treatment of these affections will be materially changed, improved, and simplified. The scrofulous diathesis is, in my opinion, and according to my experience, one of the most common predisposing causes of the disease that form the subject of the present paper. This fact, as far as I am aware, is completely ignored by all the recognized authorities on the subject, and my chief object in coming before the Obstetrical Society with this memoir is to call attention to the connection between struma and the most common forms of uterine disease, in the hope of thus contributing to a more satisfactory and rational plan of treating these complaints. My attention was first called to this point by noticing that amongst the large number of patients suffering from chronic uterine affections, such as leucorrhœa, endometritis, inflammation, ulceration, or hypertrophy of the cervix uteri, ovarian pain, sterility, repeated miscarriages, derangements of menstruation, &c., that come under my observation at the Dispensary for Diseases of Women attached to the Lying-in-Hospital, a very considerable proportion was obviously of well-marked scrofulous habit; in many instances they suffered from actual scrofulous disease of other parts, and in others I was able to trace the influence of a hereditary scrofulous taint. In these cases the uterine symptoms, the character of the inflammation, the form of ulceration, and the nature of the discharge were all impressed with the scrofulous type. The constitutional condition of the patient being thus strumous, the local uterine disease is precisely analogous to the scrofulous inflammation of the conjunctiva or phlyctenular ophthalmia of strumous children, being attended by a similar tendency to produce excoriation or phlyctenulæ of the mucous membrane, and by a somewhat similar glairy discharge, and being as impracticable under ordinary treatment. Many of the symptoms of scrofulous inflammation are generally present in the cases under consideration; in these the inflammatory action is as insidious in its first encroachment as chronic in its course, as obstinate in its duration, and as difficult to cure. Like all other forms of scrofulous inflammation, that affecting the cervix uteri is peculiarly apt to lead to the formation of ulcerations of the characteristic strumous appearance, irregularly circular in shape, superficial in depth, pale and flabby in aspect, possessing little natural sensibility, but occasionally angry and irritable, tedious beyond patience when neglected or maltreated, and best cured by the treatment appropriate to other diseases of the same character.

The treatment of the complaints now under consideration may be divided into—1st, the topical medication required by the widely varying forms of inflammation, hypertrophy, or ulceration that may be present in each case; and 2dly, the cure of the constitutional derangement which always accompanies, and I believe very frequently causes, the local disease. At the present time, almost exclusive attention is paid to the former, the latter being as generally neglected. For my own part, whilst I attach due importance to the local treatment of all uterine diseases, yet I am fully convinced by experience that the reason the cases we are now considering are generally so tedious and protracted in their cure is, that the greatly improved local treatment now relied on is not assisted by proper constitutional remedies. I shall therefore, in the first place, briefly allude to the constitutional treatment I consider necessary in these cases, for, as I have just stated, I regard chronic inflammation of the uterus and its results, including ulceration, as a consequence of a coincident constitutional disease, and therefore not to be cured by local treatment alone, except in those rare cases in which it is due to local mechanical irritation. In accord-

ance with the views already expressed as to the frequent connection between chronic uterine complaints and the scrofulous diathesis, I would strongly urge the advisability of giving a fair trial to anti-strumous remedies and regimen in the cases now under consideration. I have seen numerous instances of what I regard as scrofulous ulceration of the cervix uteri thus cured without any local application beyond that of a little tincture of iodine and the use of vaginal injections. My experience of their use would lead me to recommend the simple preparations of iodine given in small doses originally ordered by Lugol, such, for example, as the one-eighth of a grain of iodine with one-fourth of a grain of iodide of potash in preference to the larger doses of its compounds now generally prescribed. In cases where symptoms of anæmia predominate, the various combinations of steel with iodine are of singular benefit, all symptoms of uterine disease often disappearing under their use without any local treatment whatever. Of all the remedies I have tried in these cases I have found no one so generally serviceable as a mixture of equal parts of cod-liver oil and syrup of iodide of iron. Scrofula, although a frequent, is by no means the only predisposing constitutional cause and accompaniment of the diseases we are discussing, and hence in a large number of cases we must have recourse to other constitutional treatment to alter that morbid state of the system which is the remote cause of the existing uterine congestion or inflammation. This must be effected by a modified antiphlogistic treatment, conjoined with rest, tonics, and sedatives, as well as the local use of baths, or injections, caustics, astringents, counter-irritants, or local depletion according to the special requirements of each case. As a rule, chronic inflammatory disease and its effects on the uterus whether limited to the cervix or affecting the entire organ, when not of scrofulous origin requires the administration of mercury, which is best given in the form of small doses of the perchloride, one twenty-fourth of a grain three times a day, in the tincture or infusion of bark. Notwithstanding the prevailing scepticism as to the efficacy of medicines in these chronic uterine affections, my experience of many cases has fully convinced me that although the local symptoms may subside for a time under purely local treatment, the patient is more quickly as well as more permanently cured by the administration of constitutional remedies, such as that just referred to, whilst due attention is, at the same time, paid to the local treatment of the ulcerated or inflamed part. The prevailing type of chronic uterine complaints, like that of all other general diseases of the present time, is essentially asthenic, and require the administration of tonics in almost every instance, and more especially the preparations of steel, iodine, and quinine combined, when circumstances admit of it, with change of air and mineral waters. The curative effects of change of climate and of mineral and thermal waters in cases of chronic uterine disease as well as other disorders is a subject on which I am entitled to speak with some confidence, having given my attention to it during several years of travel and clinical observation in the health resorts of the Continent and the Mediterranean shores of Europe and Africa, as well as at the spas of Germany, France, and Italy. No class of remedies is so useful and so generally appropriate in all chronic uterine diseases of an inflammatory origin, and more particularly when producing ulceration or hypertrophy of the cervix uteri, as mineral and thermal waters used at their sources, and hence conjoined with change of climate. These maladies are peculiarly chronic in their course, and almost imperceptibly produce their ultimate result—namely, the causation of structural or organic mischief." Dr. Madden then proceeded to point out seriatim the various spas suitable for the treatment of the different forms of chronic uterine disease. With regard to the local treatment of cases of chronic inflammation, ulceration, and hypertrophy of the cervix uteri, he fully admitted the great importance of local treatment in these cases. Vaginal syringing, either cold or tepid as may be most agreeable to the patient, was the first method of using any topical remedy in uterine diseases, and it remained one of the most useful and indispensable. Various fluids have been proposed for this purpose. In cases of mere inflammation or congestion without ulceration or bad leucorrhœa, cold or tepid water or infusion of chamomile thrown up by a siphon vaginal syringe, in quantities of a pint or two twice daily, was perhaps the most useful. Where an astringent is

required the decoction of oak bark, with or without sulphate of alum, 3j to the pint, or a similar quantity of the compound powder of catechu mixed in warm water, strained and used cold, or a very weak solution of the perchloride of iron, generally answered. If the discharge be offensive, a weak solution of permanganate of potash or of carbolic acid might be tried, and if pain be the prominent symptom, a little liquor opii (3j ad Oj) might be resorted to. These cases seldom come under observation till the disease had passed from the stage of congestion or inflammation into that of ulceration. If, however, the cervix was found congested on examination, whether ulceration was present or not, it might be relieved by a few punctures with a sharp bistoury in the congested organ, or with less trouble to the patient and generally equally effectually, by the application of a plug of wadding saturated with glycerine to the os and cervix uteri. In this way it acted as a powerful depletent, and on the removal of the plug, which should be withdrawn within twenty-four hours, the part which might have previously been congested and angry-looking would be found pale and of a normal color, or if ulcerated, the abraded surface will appear perfectly clean and healthy-looking. It need hardly be observed that these effects were not permanent; but the repetition of the same application would for a long time continue to produce similar results, until either the remedy lost its power or the disease was cured.

In the majority of cases of simple ulceration of the os and cervix uteri a free application of a strong tincture of iodine twice a week was the best and most speedy curative local application that can be made. If that failed, as it sometimes would, the solid nitrate of silver or a strong solution of this salt may be similarly employed. Whenever there was any well-founded suspicion of the ulceration being of syphilitic origin, the acid nitrate might be resorted to, but required to be most cautiously used. In the severer cases of granular ulceration extending, as was frequently the case, from the os through the patulous cervical canal to the body of the uterus, a single application of the fuming nitric acid, pressed firmly against the diseased surface and passed through the cervix into the cavity of the uterus by a wire thinly coated with cotton wadding dipped in the strong acid, when aided by proper constitutional treatment, efficiently destroys the most angry and obstinate ulceration, leaving a clean, healthy, granulating surface as soon as the eschar had fallen, and seldom required to be used a second time if properly applied. With regard to the potassa cum calce, in the few cases in which he had seen it employed the results were not such as would induce Dr. Madden to recommend its use. Of the stronger caustic—the potassa fusa—advocated by Dr. J. H. Bennet and by the late Sir James Simpson, his experience led him to coincide entirely with Dr. West, “that when adopted it is usually either out of place or superfluous.” He had seen great injury done in some cases which came under his observation, in which bolder practitioners had used caustic potash freely to cauterize an ulcerated os uteri or to reduce an enlarged cervix. In two cases he was obliged to attempt to restore by dilatation the canal of the cervix, which had been almost obliterated by the improper application of caustic potash, and one in which the vagina was thus occluded. Nor were these the only evils which might follow the employment of this heroic remedy. The author had had to treat acute metritis produced in this way, and he therefore had not thought himself justified in using a remedy liable to produce such consequences when other agents, equally powerful but less dangerous, could be employed. Hypertrophy of the cervix uteri considered as a cause of sterility had attracted more attention than it deserved, and a variety of heroic surgical procedures had been proposed and were practised for its removal with this view. Those included amputation of the enlarged cervix, as recommended by Dr. Marion Sims, the application of potassa fusa or of the potassa cum calce for the purpose of melting down the enlarged cervix as advocated by Dr. J. H. Bennet, and the employment of the actual cautery as practised by French surgeons. Now, in his (Dr. Madden's) opinion, all these procedures were, as a rule, not only useless but injurious in the majority of instances of hypertrophy of the cervix uteri, though each of them might be necessary and beneficial in extreme cases and under exceptional circumstances. Dr. Madden concluded his excellent

paper as follows: "The practical conclusions which I would venture to submit to the consideration of the learned Society which I have the honor of addressing these observations to, as the result of my experience of chronic uterine disease, and on which I trust to elicit the opinions of those who have had such opportunities of investigating the subject, are briefly as follows: 1st. That chronic inflammation of the uterus, and especially of the cervix uteri, producing hypertrophy and ulceration, is in the majority of cases occasioned by constitutional cause, one of the most frequent of which is the scrofulous diathesis. 2d. That these diseases require constitutional as well as local treatment; the constitutional treatment required has been already discussed, and I would again urge the benefits derivable in these cases from the use of the mineral and thermal water I have already spoken of. In many cases of chronic uterine inflammation and ulceration of the cervix uteri, the inflammation may be subdued and the ulcer cicatrized by local application alone, but whenever general treatment is not combined with the local measures depended upon, the inflammation subsides or the ulceration heals much more slowly, and the disease is far more liable to recur within a short time than is the case when suitable constitutional remedies are also resorted to."

ART. 252.—*On Intra-Uterine Medication.*

By ROBERT BARNES, M.D., F.R.C.P., Obstetrical Physician to St. Thomas's Hospital.

(*British Medical Journal*, January 11.)

To avoid the dangers of intra-uterine injections, several precepts have been enjoined. The great object aimed at is to avoid or lessen the risk of the fluid running along the tubes. This it is sought to attain—1. By securing free dilatation of the cervix uteri before injecting, so that the fluid may readily run back into the vagina. For this purpose the preliminary use of laminaria-tents is advised. 2. By using only graduated quantities of fluids, and injecting very gently and slowly. 3. By using a double canula, so as to secure a return-current. To effect this the more surely, the openings of the canula at the uterine end are made at different levels.

Dr. Barnes has not much faith in the double canula. The end which should serve for the return-current is liable to be choked. The preliminary free dilatation of the cervix, and the use of gentleness in propelling the fluid, should never be omitted: but the author does not believe that the observance of these precautions is an absolute guarantee against accidents. It is probable that the more forcible impact of any fluid striking upon the inner surface of the uterus, especially upon the fundus, may cause severe pain and prostration. Since nothing is gained by forcible injection, this consideration affords additional reason for injecting with all possible gentleness; hence it is well to use injecting-pipes having lateral openings of very fine calibre, so as to "pulverize" the liquid.

Dr. Barnes strongly advises not to use injections at all in cases of marked flexion of the uterus. Even if we dilate the cervix first by tents, and maintain the uterus erect during the injection, we cannot always be sure that the flexion will not be reproduced, so as to prevent the issue of the fluid; and it must not be forgotten that it is especially in these cases that the uterine cavity is likely to be enlarged, and the Fallopian tubes dilated.

The general conclusion at which Dr. Barnes has arrived, is to restrict the use of intra-uterine injections within the narrowest limits. He rarely employs them now, except in cases of urgent danger from menorrhagia.

We may obtain almost all the advantages that injections are capable of giving by other means. For example, the same agents which are useful in the form of solutions for injection, may be employed either by swabbing, or solid, or in the form of ointment. Thus, where the use of chromic or nitric acid, or perchloride of iron, or iodine or bromine is indicated, these agents can be applied soaked on a sponge or piece of cotton, or on a glass or hair-pencil, the cervix having previously been well dilated. Nitrate of silver is far better

applied in the solid form : even then it is liable to cause severe colic. The risk of this may be lessened by reducing the caustic, by fusing it with an equal part of nitrate of potash. The ordinary way of using the solid nitrate of silver—that is, by holding a piece of the stick in a forceps or porte-crayon—is objectionable. The piece may fall out or break, and a fragment left behind in the cervix or body of the uterus may give rise to intense agony, and even metritis. To avoid this accident, Dr. Barnes has for many years adopted a contrivance he learned from Sir Benjamin Brodie, who armed the ordinary probe by dipping the end into nitrate of silver, fused in a watch-glass over a spirit-lamp. He uses special probes of platinum or silver, mounted on handles of convenient length. These probes may be curved to follow the course of the uterine canal. This is far the best way of applying nitrate of silver to the os and cervix uteri; and it is the only safe way of applying it to the interior of the uterine cavity. The armed end of a probe may be passed into the uterus without the speculum, although the aid of this instrument is sometimes convenient. For example, unless the armed probe be protected by a canula, the caustic will first touch the vulva and vagina in its passage, which is apt to leave unpleasant effects, and the guiding finger of the operator will be stained.

One of the most widely useful topical applications to the mucous membrane of the cervix and body of the uterus is sulphate of zinc. The value of this agent, when applied to the relaxed or morbid mucous membrane of the vagina in the form of injections, is familiarly known : how to apply it to the uterine mucous membrane is, therefore, a matter of great interest. This has been accomplished by Messrs. Johnson, the well-known assayers, on the suggestion of Dr. Braxton Hicks, who prepared small cylindrical sticks of fused sulphate of zinc, weighing three and five grains. These can be carried quite into the uterus without having touched the vagina by the way, by means of a canula, first made by Messrs. Weiss, and now generally sold by instrument-makers. It consists of a silver canula of the size of a No. 8 or 9 catheter, gently curved, open at the end, and supplied with a stilet or piston. The stick of sulphate of zinc or other material is placed in the uterine end of the canula; the instrument is then passed into the uterus just as the uterine sound is passed, the patient lying on her left side; and the operator's finger, placed on the os uteri, guides the instrument. It is a great advantage of this contrivance that the use of the speculum is quite unnecessary after it has aided in establishing the diagnosis which supplies the indication in treatment. When the instrument has gone the proper depth, the piston pushes out the stick, and the instrument is withdrawn, leaving the stick to dissolve. This it soon begins to do, and, by its speedy effect in constricting the mucous membrane, it keeps itself *in situ* until it is completely dissolved.

Nitrate of silver, reduced by admixture with nitrate of potash, may be used in the same way; so may persulphate of iron, but this should be considerably reduced.

A most precious way of applying astringents, caustics, solvents, or alteratives to the interior of the uterus, is in the form of ointment or pasma. In this way almost any substance can be applied. Where grease is objectionable as a vehicle, a pasma of suitable consistence may be made by aid of glycerine or other matters. In this form we may use substances which cannot easily be applied in any other way. For example, we can hardly use bromine, or iodine, or mercury, in a solid shape; and to use them in liquid form is open to the objections already discussed. Almost anything can be made into an ointment or pasma, and thus we get a complete practical command over a large range of useful agents.

To introduce ointment into the cavity of the uterus, Messrs. Weiss have made from Dr. Barnes's design a very convenient instrument, also capable of being used like a sound without the speculum. The instrument is easily charged by dipping it into the ointment—a sufficient quantity of which is carried into the uterus, and, by pushing up the piston, is deposited there.

If it be desired to apply a powerful liquid caustic, as chromic acid or strong bromine, to the interior of the uterus, this can be done by the ointment-carrier. A few shreds of asbestos may be packed in the space between the eyelet-holes

and charged with the fluid. On ramming down the piston, the fluid will be squeezed out.

In discussing the action of powerful styptic injections in arresting flooding after labor, the conditions under which the practice Dr. Barnes has recommended is indicated have not, he says, always been accurately appreciated. The great agent, of course, in stopping hemorrhage, is the constriction of the uterine vessels by the muscular wall in which these vessels run. All the ordinary means of arresting hemorrhage are aimed at producing muscular contraction. But muscular contraction depends on nervous power. Thus cold, grasping the uterus, introducing the hand, galvanism, all depend for their efficacy upon the spinal cord being able to respond to the peripheral call. When, therefore, these means prove sufficient, the inference is *generally* warranted that the case, although serious, is not desperate. The condition is very different when the excito-motor function is suspended; when neither by peripheral excitation, nor by centric stimulus, the nerve-force can be drawn or sent from the spinal cord to the uterus in sufficient intensity to cause contraction. At this point, unless the bleeding is arrested by syncope, or by temporary enfeeblement of the circulation, the patient is in the most imminent danger of death. The slightest shock or disturbance will extinguish the flickering spark of life. Under such circumstances Dr. Barnes has known death follow, to all appearances immediately caused by, the injection of cold water, or passing the hand into the uterus. If, instead of cold water, we inject a solution of perchloride of iron, the same catastrophe may ensue. Is it more likely to ensue? Very careful observations are required before this question can be answered in the affirmative. People are apt to think that cold water is so simple a thing that it cannot do any harm. But if it cannot do any harm, is it not probable that it is, under the conditions discussed, equally powerless to do any good? Harmless remedies, as a rule, fail in great emergencies. Now, cold water fails, not because it is harmless, for the shock and depression which it causes are extremely dangerous; but it fails because, nervous power being exhausted, it cannot excite uterine contraction, and it has no other virtue in arresting hemorrhage.

Here then it is that styptics come to the rescue. The emergency is extreme, and would be desperate but for the new power invoked. If blood be still running, it is instantly seized at the mouths of the vessels, which become sealed up by coagula. It also constricts the inner surface of the uterus, and thus further closes the vessels. The system then has time and opportunity to rally, and by-and-by the contractile power returns. In estimating the relative value, then, of cold water and perchloride of iron, we must reflect that iron acts and saves life when water is inert or injurious. If occasionally death follows, and is apparently accelerated by the iron injection, we have, on the other hand, to remember that it was used as a last resource, when the patient was likely to die even if nothing were done, and that even under these unpromising conditions *many lives, to all appearance doomed, have been saved.*

The great lesson to learn is to take courage to use the styptic in time; that is, before the vital power has sunk too low. It was not to be expected that a remedy powerful enough to save under the last extremity should be altogether free from danger. But Dr. Barnes has seen so many women bleed to death, and has seen so many saved by the timely use of the iron injection, that he is much more afraid of the bleeding than of the remedy.

In some cases there is reason to believe that the iron enters the uterine vessels. He has known intense pain in the uterus follow immediately on the injection. How is this explained? If blood were present in the vessels, it is a chemical necessity that contact with the iron would cause coagulation. He infers, then, that in some cases the vessels are for a time nearly empty; and that there is a certain amount of suction-action induced by the relaxed state of the uterus, and by the lateral or semi-prone position of the patient. He would therefore urge that the patient be placed on her back, and that the uterus be grasped firmly between the two hands of an assistant during the injection.

In some cases, it is easy to carry a swab of sponge soaked in the iron solution into the uterus. In this way probably some of the risk attaching to injection

is avoided. The persulphate of iron, which is preferred by our American brethren, may have its advantages. Its styptic force is probably greater. It may be used in the form of one part of the liquor ferri persulphatis of the *British Pharmacopœia* to six or eight of water. The proper strength of the perchloride solution is one in ten.

ART. 253.—*On Intra-Uterine Medication in the Treatment of Chronic Uterine Catarrh.*

By W. S. PLAYFAIR, M.D., F.R.C.P., Professor of Obstetric Medicine in King's College.

(*The Lancet*, January 11.)

In this paper Dr. Playfair describes the various methods of applying remedies to the interior of the uterus.

It is evident, he says, that by this expedient any topical remedies that we deem suitable can be very effectively and readily applied to the uterine mucous membrane; but due care should be taken both in regard to the mode in which the injection is made, and the nature of the solution or other material injected.

It has been said that if the cervix were first dilated with laminaria or spongetents, or with graduated metallic bougies, bad results need no longer be feared. But Dr. Playfair remarks, to treat effectually an old-standing case of uterine leucorrhœa we require to renew our applications at intervals for weeks or months. To suppose that, under any circumstances, it would be justifiable to repeat the dilatation of the cervix, say once a week, is an absurdity, since this is in itself a formidable operation, apt to be followed, even when most carefully done, by serious inflammatory mischief. If then dilatation is an essential preliminary to intra-uterine injection, as by common consent it seems to be, that method of treatment is at once put out of court in cases of uterine catarrh, although it may still be admissible in other conditions, such as menorrhagia, where frequent repetition is not necessary. The danger of intra-uterine injection has suggested the application of various solids to the uterine mucous membrane. Sir James Simpson occasionally employed for this purpose fine intra-uterine pessaries, made of some soluble material with which nitrate of silver or sulphate of copper was mixed. Dr. Braxton Hicks also uses points made of sulphate of zinc, which are passed into the cervical canal and allowed to melt there. Dr. Thomas, of New York, recommends medicated tents of sponge, of sufficient size to fit the cervix, and saturated with various alterative applications, such as nitrate of silver, tannin, or the like. The use of spongetents is strongly recommended by Dr. Emmett and others, as in itself of great value in certain conditions of chronic hypertrophy of the cervix, combined with a granular state of its villi. Various contrivances have been invented by which nitrate of silver in substance may be applied to the uterine mucous membrane, such as melting it over the extremity of a uterine sound, or passing through a stick of it a fine platinum wire, by means of which it is passed through the cervix. Another expedient of the kind is one very strongly advocated by Prof. Courty, of Montpellier, who states that he has never failed to cure every case of uterine catarrh, however obstinate, that he has had under treatment. It consists in passing into the cavity of the uterus a small piece of solid nitrate of silver which is allowed to remain there. The caustic gradually melts, mingles with the uterine discharge, which Courty supposes prevents any undue irritation of the parts, and gradually flows over the entire mucous membrane. Certain precautions are insisted on in using this application, principally that several days should have elapsed since the entire cessation of the menstrual period, the absence of any flexion of the uterus which might prevent the escape of the discharge saturated with the melted caustic, and the absence of any marked congestion or irritation of the uterus.

Dr. Playfair is of opinion that it would be difficult to imagine anything more apparently violent in its action than this. The natural objection to it is that

it is a coarse mode of treatment, and one of which we cannot control the action. In addition to this there seems to be some risk of producing induration and contraction of the cervical canal, a result which has been said to follow even the repeated use of a solution of nitrate of silver. For these reasons he has not himself practised it, but the high estimation in which it is held by so eminent a gynecologist as Courty, and the assurance he gives us that a large number of his pupils have constantly used it with success, prove that the application of the caustic itself is not followed by the serious consequences many have feared.

Mr. Clay, of Birmingham, has recently proposed to medicate the interior of the uterus by means of the insufflation of powders. He combines the remedial agent with finely powdered wood charcoal. The powder is introduced by a special instrument contrived for the purpose.

The last mode of intra-uterine medication is by using fluid applications—such as tincture of iodine, a solution of nitrate of silver, chromic acid, and the like—which are applied to the uterine mucous membrane by some contrivance which admits of its surface being covered by the application without any amount of fluid being left in utero. This method of painting over the diseased surface is, to Dr. Playfair's mind, by far the safest and most effectual we can employ. One of the earliest and strongest advocates of this method is Prof. Miller, of Louisville, U.S., who claims, and apparently with justice, to be one of the earliest advocates of systematic intra-uterine treatment, inasmuch as he practised and taught it so early as 1854.

ART. 254.—*On the Treatment of Post-partum Hemorrhage.*

By HEYWOOD SMITH, M.D.

(*Medical Times and Gazette*, March 1.)

At a meeting of the Obstetrical Society of London, February 5th, Dr. Heywood Smith related a case illustrating the treatment of post-partum hemorrhage by the intra-uterine injection of the perchloride of iron. The patient was admitted into the British Lying-in Hospital on January 26th, 1872, and delivered that day by a pupil midwife of a male child, after a labor of twelve hours. The placenta came away easily in twenty-five minutes. Third day: The patient complained of severe pain in the hypogastrium. Tenth day: Hemorrhage occurred. Eleventh day: Hemorrhage continuing, a solution of one part of strong liquor ferri perchloridi to eight of water was injected. Sixteenth day: Bleeding continuing, the injection was repeated. Eighteenth day: The uterus was again injected with iron (one in four), and again on the twentieth day with equal parts of the liquor ferri and water. The twenty-first day strong liquor ferri was injected into the uterus with an intra-uterine syringe holding about two drachms. This produced severe pain, but completely stopped the hemorrhage, which never amounted to flooding, but oozed continually of a bright red color. Twenty-third day: The patient was delirious, and discharge brown and offensive. Twenty-fifth day: Had occasionally great dyspnoea, and picked at the bedclothes. Twenty-eighth day: Died. The uterus was removed, and examined by Dr. Snow Beck and the author. It was nearly five inches long and four inches broad, and its walls three-quarters of an inch thick. Its anterior and posterior surfaces were marked with black streaks; the tissue was soft, but otherwise apparently healthy. Its inner surface was covered with a dark reddish-black fluid, and at the junction of the upper third with the lower two-thirds was a depression stained black. Near the centre of it an artery hung out more than one-eighth of an inch. Near the depression, and fitting into it, was a rounded mass of placenta about the size of a small filbert. A small portion of the end of an artery showed the free extremity slightly puckered, its margins rounded, and the canal unobstructed. The author believes this case teaches us—1. That post-partum hemorrhage happening after complete contraction of the uterus, and therefore after the uterine sinuses have been emptied of blood, is evidently arterial. 2. That when a solution of the

perchloride of iron is injected into the uterus, the sinuses take it up and carry it into the veins; the tissues also immediately surrounding the sinuses become stained. 3. That the perchloride of iron does not produce contraction, nor, by coagulation of blood, blocking of the orifices of the uterine arteries. 4. That the perchloride of iron is a styptic, the use of which in the cavity of the puerperal uterus is not innocuous.

Dr. Routh thought great credit was due to Dr. Heywood Smith for bringing forward this unfavorable case. He had suspicions that the injection of iron was not so innocuous as believed. Some time ago he called in Dr. Barnes to assist him in treating a case of post-partum hemorrhage, in which Dr. Barnes injected a solution of the weak tincture of steel and water in equal parts with the desired effect. On the third or fourth day puerperal fever set in, and, in spite of all treatment, the patient died. He did not say the death was due to the injection, but he thought it might be so. In Dr. Heywood Smith's case no mention was made of the complete escape of the fluid injected; perhaps some had been retained. If so, the symptoms might be due to retention of the fluid giving rise to peritonitis rather than to the nature of the fluid injected.

Dr. Graily Hewitt stated that he had seen one case where the perchloride of iron injection had been used to restrain hemorrhage, and the patient had subsequently died. A solution (one in four) of the tincture was injected, and restrained the bleeding. After three days pain set in, the lochia became arrested, and the patient died from puerperal peritonitis and other grave complications, five weeks after delivery. Whether this result was in any way due to the action of the iron was a question.

Dr. Braxton Hicks thought the injection which Dr. Heywood Smith had used was too strong, and that it would have been well in his case to have dilated the cervix for the purpose of investigating the interior of the uterus. He had employed the perchloride of iron injection a great number of times, and had made inquiries largely amongst those who had also used it, without having seen or heard of any serious result. The only case in which he had seen any trouble was one of severe flooding after twins. The injection was used with complete success. Twenty-four hours after pains arose, and it was found that the uterus contained hard, blackened coagula which it could not expel. These were broken up, and washed out, and the patient did well. He believed pyæmia might result from depression after severe hemorrhage where no injections or perchloride of iron had been used.

Dr. Sell, of New York, said that his experience regarding the use of perchloride of iron was obtained at the University of Vienna, which could boast of from 7000 to 9000 deliveries annually. There its use in post-partum hemorrhage was the treatment upon which they relied, provided ergot and injection of cold water did not arrest the bleeding. A weak solution of the ferrum sesquichloridum (3j ad aq. lb. j) was gently injected, and repeated till the hemorrhage ceased. He had never seen any bad results from this treatment.

Dr. J. J. Phillips, while admitting that there were certain dangers connected with the injection of a solution of perchloride of iron, believed there was no valid argument against its use in suitable cases. He had used it several times, and death had occurred only in one case, which he could not in the least degree connect with the use of iron. He generally diluted the liquor ferri perchloridi (not the strong one) with about half its bulk of water.

Dr. Playfair said that he should much regret if the case brought before the Society should have the effect of throwing doubt on the safety of astringent injections in severe cases of post-partum hemorrhage. He had used the perchloride of iron in many cases, and only once unsuccessfully; nor had he ever seen any evil consequences. Dr. Heywood Smith's case was one of secondary hemorrhage caused by the presence of a piece of retained placenta; and the strong undiluted liquor ferri perchloridi had been injected—a proceeding which Dr. Barnes had not sanctioned.

Dr. Snow Beck stated that he had met with several cases where death had followed the injection of perchloride of iron into the gravid uterus to arrest post-partum hemorrhage, all the women presenting symptoms quite analogous to those known under the name of puerperal fever. It was now ascertained the

hemorrhage only occurred when the uterus was relaxed. This relaxation allowed the canals of both the arteries and the veins to remain open when the blood was poured out from the arteries, and any styptic injected was too often taken up by the veins, conveyed into the general system, and caused the certain death of the individual. This had always been verified on the post-mortem examinations he had been permitted to make. He believed the usual means employed to promote contraction of the uterus were all sufficient for the purpose provided they were used efficiently. It was a mistake to say they required the presence of any supposed "nerve force," as the uterus was comparatively isolated from the general system, had an independent action of its own, and to produce complete contraction the remedies—except the ergot of rye—ought to be effectively applied direct to the organ itself. When this was done there was no necessity for any new power in the form of styptics injected into the uterine cavity. Where the local stimulus of cold or the introduction of the hand was not sufficient, sponging or swabbing the inner surface with any astringent would induce contraction, expel the hand with all coagula, and, by closing both the arteries and the veins, stop the hemorrhage and prevent any injurious absorption. In secondary hemorrhage occurring after the first week after abortion, &c., where the walls could not be induced to contract, further sponging or swabbing the inner surface with an astringent was every now and then required. But it was very necessary to afterwards wash out the cavity each day, to remove any injurious matters, and to prevent deleterious absorption.

Dr. Bantock had used the injection of perchloride of iron, but once, in a case of accidental hemorrhage occurring within a fortnight of the natural term of utero-gestation. The injection produced severe pain in the hypogastrium. To relieve this, nepenthe to the amount of a fluid drachm was administered, but the pain increased in severity until she died seven or eight hours afterwards. He believed death in this case must be attributed to the injection of the iron. At the same time, he would not wholly condemn the remedy because one fatal case had occurred. He believed compression of the uterus, if intelligently performed, was a sufficient preventive and curative measure in most cases of post-partum hemorrhage.

Dr. Wynn Williams considered that the injection of solutions of perchloride of iron into the cavity of the uterus was accompanied with considerable risk. His method of applying it differed from that of Dr. Barnes. After having emptied the uterus of all clots, he swabs the interior of the uterus with a sponge saturated with tincture of perchloride of iron and water (equal parts). Should the sponge not be expelled by the contractions of the uterus thus set up, it is left, a string being attached to it. He believed this to be a safer proceeding than that recommended by Dr. Barnes.

Dr. Protheroe Smith said that although the use of the perchloride of iron as an intra-uterine remedy post-partum could not be considered free from danger, he nevertheless regarded it as a valuable remedy when others had failed to arrest the fatal issue. He thought some of the dangers of the use of iron might be overcome by using instead the undiluted tincture of matico, and he strongly commended this powerful styptic to the notice of the Fellows of the Society, with a view further to test its efficacy as a valuable remedy in post-partum hemorrhage.

Dr. Hayes thought it probable that the cause of death in the case mentioned by Dr. Bantock was more due to shock than to the iron injection.

Dr. Holman had experienced many practical proofs of the safety and efficacy of perchloride of iron injections in post-partum hemorrhage. He never went to a labor without carrying the remedy and the means of using it with him, and he was convinced that he had, by the use of it, saved lives which would otherwise have been lost. He did not employ it until all the other usual methods had been exhausted.

Dr. Kdis had seen a case of secondary hemorrhage occurring ten days after delivery, in which an injection of equal parts of the tincture of perchloride of iron and water failed to restrain the hemorrhage. Death being imminent, he injected an ounce of the pure tincture, and left it in. The patient slept

well after it, and had no pain or inconvenience, and her life, he believed, was saved by it. He had used pure tincture in several other cases with marked success.

Dr. Rogers believed that the injection of iron should only be had recourse to when other means had failed. He had injected the pure tincture of steel for post-partum hemorrhage in seven cases with immediate good results, and in only one had any serious after-consequences followed. This case recovered. As a *dernier ressort* he thought the injection of iron ought to be tried, but perhaps the plan advocated by Dr. Wynn Williams might be the safer way of using the styptic.

Dr. Playfair asked Dr. Snow Beck how many cases of death resulting from the injection of perchloride of iron he had personally seen. It would be interesting to the Society to know, inasmuch as many Fellows had repeatedly injected the iron without ever witnessing any bad results; while he, who confessedly had never used the remedy himself, had had the bad fortune to witness several fatal cases.

Dr. Snow Beck answered that he had seen nine or ten cases. The symptoms were similar to those of puerperal fever, but he felt convinced that death was caused by the injection of iron.

Dr. Barnes said it was eminently desirable that everything that could be urged against the practice of arresting post-partum hemorrhage by injecting perchloride of iron should be stated, but there was little hope that the spirit of criticism which was so strong in Dr. Beck would ever be exhausted. Dr. Barnes believed this question was to be decided, not by *a priori* anatomical closet speculations, but by experience at the bedside. Dr. Beck, admitting he had never used the remedy or seen it used, labored by ingenious anatomical arguments to prove that the perchloride of iron *could not* cause the uterus to contract or close the arteries. The simple answer was that it did both, and did it effectually. He had often had his hand in the flaccid, bleeding uterus to clear out placenta and clots, and felt the inner surface of the uterus contracting, corrugating, crinkling under the contact of the iron as it flowed, stopping the bleeding and expelling the hand. Dr. Beck had labored to prove that the uterus was an isolated organ, independent in its action from the nervous centres. Dr. Barnes could not agree with him. A thought would cause the uterus either to contract or dilate. If this physiological fact were at variance with Dr. Beck's anatomy, he feared Dr. Beck's anatomy must be wrong. Dr. Beck asserted that ergot, cold, galvanism, and pressure were sufficient to arrest hemorrhage, but such an opinion could only be entertained by those who had seen but little practice in difficult midwifery. Dr. Barnes had seen many women bleed to death after all those means had been used unsuccessfully by men as skilful as any in that room. Dr. Bantock's case was one which had given him great anxiety, and he had been much disposed to interpret it as Dr. Bantock had. Certainly, the pain must be attributed to the injection, but it did not follow that it was the cause of death. The prostration was already extreme, and the fatal termination was, as had been pointed out by a previous speaker, probably due to shock. In extreme exhaustion from bleeding, a very slight cause was often enough to extinguish the patient's life. Dr. Routh's case was one of septicæmia, for which he certainly could not blame the perchloride. Flooding predisposed powerfully to septicæmic fever. It frequently occurred when no styptic injection had been used. Dr. Barnes added that it had struck him as a remarkable fact in this, and also in the preceding discussion, that those who condemned most warmly the practice of injecting iron solutions to arrest hemorrhage were men who had at most seen it used once, whilst it had been emphatically approved by men whose experience was greatest and who had used the remedy frequently. Nothing could be truer than Dr. Holman's description of the risk run by delicate, pampered women who become exhausted by the mere effort of bringing forth a child. In those cases where the uterus could not be made to contract, where he could not rely upon reflex excitation, when grasping the uterus must at length be abandoned, then it was that the perchloride came in as a new power to save life in the last extremity. He felt deeply his responsibility in advising the use of a

remedy which to many seemed dangerous. But the conviction he had acquired—that he had saved many lives, otherwise doomed, by this practice—was too deep to permit him to hesitate in continuing to pursue it, or to urge others to do the same. When all ordinary remedies were ineffectual, should we look on passive, folding our hands behind us, or turn upon our heels, and let the woman die?

Dr. Murray wished to add his testimony as to the value of perchloride of iron. He had used it in ten cases in which the various ordinary means had been tried and had failed to arrest the hemorrhage. He considered delay in using the iron far more dangerous than the employment of it.

Dr. Savage stated that he had never met with a case of post-partum hemorrhage rebellious of the old-fashioned practice, and many obstetricians were opposed to iron injections. Groundless alarm had probably in many instances led to their premature use, and the overlooking of Dr. Barnes's own reservation—viz., to use the perchloride as a last resource. If he were ever induced to have recourse to the perchloride, he would use a strong solution, taking care to prevent premature contraction of the cervix. The plan of Dr. Wynn Williams he believed to be founded on the true principle.

Dr. Heywood Smith, in reply, said he was glad to find that the case he had brought forward had proved so full of interest to the Society. He did not regret having done so. Every new therapeutical agent should be fairly investigated, and the results published, whether they be favorable or otherwise. Though many had spoken against the intra-uterine injection of iron, on the whole the balance of opinion that night was in its favor. He wished it to be distinctly understood that the lesson he had tried to deduce was, that though the intra-uterine injection of iron might be a suitable remedy in cases of *primary* hemorrhage, it was not so in *secondary*. He maintained that after the process of involution and absorption had commenced it was unwise to inject into the uterus anything which being absorbed might prove deleterious. Dr. Heywood Smith also wished to draw attention to the fact that at the British Lying-in Hospital, since he had made it a rule that every patient should have ergot after her labor is over, to insure the proper contraction of the uterus, there had been much fewer cases of puerperal mischief. He begged to thank the Society for the attention they had given to his paper.

ART. 255.—*On the Treatment of Parametritis Puerperalis by Corrosive Sublimate.*

By Dr. P. GOSSMANN.

(*Berliner Klinische Wochenschrift*. No. 34, 1872. *Schmidt's Jahrbücher*, No. 12, 1872.)

In the winter of 1871–72 a succession of serious puerperal affections, especially parametritis, was met with in the gynecological clinique of Professor Spiegelberg. No local cause could be discovered, and all that remained to be done, therefore, was the prophylactic proceeding of placing pregnant and lying-in women under as favorable conditions as possible. Whether the labor had been difficult or light seemed to have no influence upon the course of the lying-in; those with whom a difficult labor necessitated active and sharp treatment generally remained healthy, whilst those with whom parturition had taken a normal course were generally seriously, and in some cases fatally, affected. Of some twenty cases of severe parametritis Dr. P. Gossmann has published two, which ran their course without any complications:—

“A woman, aged twenty-four years, and in her second conception, was, at the normal termination of a pregnancy which had run its course without any disturbance, delivered in between four and five hours of a healthy child. This was not nourished by the mother, whose breasts were then slightly compressed. Between twenty and thirty hours after delivery the patient was attacked with rigors, and afterwards became intensely feverish. In the evening the pulse was 120, the temperature 39°·7 C., and the patient complained of much thirst, loss

of appetite, and pain in the iliac regions. Under the lax abdominal wall could be felt the swollen and very painful broad ligaments, extending from the sides of the uterus to the sides of the pelvis. Ten leeches were applied, and subsequently cataplasms. Bichloride of mercury was administered every hour in doses of 0.01 of a gramme. No improvement on the following morning; the pills and local application of cataplasms still continued. In the evening the pulse was 124, and the temperature $40^{\circ}.3$; several stools passed during the night. On the next morning the condition of the patient was much better; so long as she remained quiet the abdomen was free from pain. Much pain, however, was caused by a thrombus which had formed in the middle third of the large saphenous vein; pulse 84, temperature $38^{\circ}.0$. On the following day the patient was doing well; the administration of the mercury was now discontinued. Two days subsequently the abdomen was free from pain, even on pressure; the exudation was much less in quantity, and the patient's appetite had returned. On the eleventh day from the commencement of the attack the patient was discharged as cured.

"A strong primipara, aged twenty-three years, was normally delivered after a labor lasting for seventeen hours, in the course of which the perineum was deeply lacerated; this wound was closed immediately after the delivery by three vaginal and three rectal sutures. The administration of laudanum in ten-drop doses twice daily was sufficient to prevent defecation. On the second day the patient suffered from a severe fit of rigors, which was followed by fever; the whole of the inferior abdominal region became swollen and tender; infiltration of the broad uterine ligaments could be made out on both sides; pulse 136, temperature 40° C. The treatment was similar in all respects to that carried out in the previous case. In the evening the pulse was 124, and the temperature $39^{\circ}.5$. During the next two days there was no marked change in the state of the patient; the bichloride was then discontinued, but after twelve hours again administered, as the exudation had increased. On the following day the fever relaxed. This, then, under the same treatment, ran a similar course to the fever manifested in the first case. The administration of the bichloride was continued for four days, and then given up. Some days later there was a second attack of fever, which, however, disappeared in the course of a few days. The intra-abdominal exudation, which at first had extended about a hand's breadth above the anterior wall of the pelvis, could not be felt on the fifteenth day from the commencement of the illness, and the patient was then discharged cured.

"In neither of these cases was salivation produced, or any symptom of disturbance of the stomach or intestinal canal.

"All the other cases of parametritis, alone or associated with metritis, came in the same way, and under the same treatment ran a similar course. When the affection commenced on one of the first five days after delivery, the first attack of fever was very intense, but on the fifth or sixth day of the illness the pulse and temperature were reduced to their normal standard, even though the exudation persisted, which it generally did until between the tenth and fifteenth days. All the lying-in women who had been attacked so early after delivery were all to be discharged as cured before the seventeenth day, those cases only being excepted in which the parametritis resulted in fatal peritonitis. The attack, when it did not come on before the seventh day, lasted for three or four weeks, and at the end of this period cicatrized cords and resistant structures about the womb could be felt through the vagina. Whenever, after the suspension of the bichloride of mercury, the stools were irregular, ten drops of laudanum were administered in the evening, and a tablespoonful of castor-oil on the following morning. The application of cataplasms was continued until the exudation could no longer be made out. In some mild cases the bichloride was not given, the treatment consisting in the application of leeches and cataplasms, and the administration of laxatives. These cases did well, but still neither the febrile phenomena nor the exudation passed away so quickly as in cases where the bichloride had been administered. In two or three cases it was necessary on account of salivation and profuse diarrhoea, to discontinue the bichloride, even though it had been given in small doses. In the great

majority of cases, on the other hand, no severe salivation nor troublesome diarrhoea occurred. The bichloride, when administered at the commencement of the illness, shortened the course of the parametritis and favored the disappearance of the exudation."

ART. 256.—Two Cases of Purulent Peritonitis terminating in Rupture of the Umbilicus, and Recovery.

By Dr. BAIZEAU.

(*L'Alger Médical*, No. 1; *Gazette Hebdomadaire*, No. 16, 1873.)

"The subjects of these cases were two children, one aged twelve and the other ten years. Both were suddenly attacked without appreciable causes by intense fever, with vomiting and abdominal pain and swelling. They presented all the signs of generalized peritonitis and went through the phases of this affection, which more than once threatened to terminate fatally. One of the patients had not only to struggle with the peritoneal affection, but was also successively attacked by pneumonia, purulent pleurisy, and suppurative parotitis.

"In this patient an opening formed at the umbilicus about two months after the commencement of the inflammation of the peritoneum. Shortly afterwards it was found necessary to open the chest in order to give exit to effused pus. A drainage tube was placed in the right pleural cavity and another in the abdominal cavity, and through these solutions of iodine were injected. The tubes were allowed to remain for eleven months. After their removal the patient rapidly regained strength, and has never since suffered from any disturbance either in the chest or abdomen.

"The other patient was not so seriously affected; the progress of the inflammation was more regular without being much less threatening. The umbilicus opened in the same manner and gave exit to thin greenish pus containing flocculi. The purulent secretion speedily diminished after establishing drainage and injections of lukewarm water, and there was complete recovery six weeks after the perforation of the umbilicus. The affection lasted for three months only, and, as in the former case, left no traces."

ART. 257.—On Junod's Boot as a Remedy in some Forms of Leucorrhœa.

By E. GARRETT-ANDERSON, M.D.

(*Practitioner*, December, 1872.)

In cases of sudden suppression of menstruation from cold or nervous shock where the more ordinary and semi-domestic remedies have failed, and where the distress from cerebral congestion is great, Junod's apparatus promises to be of use, either as a palliative or as a cure. Essentially it is a dry-cupping on a large scale. The leg is inclosed in an air-tight case, and the air exhausted over it. The result is that for the time the capillaries and vessels of the leg enlarge, more blood remains in the limb, and the circulation in other parts is proportionately relieved. It has the great merits of not interfering with other treatment, of being quite painless, and so easily regulated as to be practically harmless, and of being applicable to young girls. Dr. Garrett-Anderson has tried it in two cases, and in each the return of the menstrual flow appeared to be the result.

ART. 258.—A Case of Rigid Os treated by Hydrochlorate of Apomorphia.

By ALEXANDER MILNE, M.D.

(*Transactions of the Edinburgh Obstetrical Society*. Sessions 1869-70-71. 8vo. pp. 455. Edinburgh.)

The subject of this case was in labor with her fourth child: os size of sixpence after three or four hours active pains: little progress made in next two

hours; chloroform; attempt to dilate with the finger; two grains of tartar emetic resulting in nausea and vomiting; twenty-five minims of liq. morph. hydrochlor. were successively resorted to, but without improvement. A solution containing one-quarter gr. of hydrochlorate of apomorphia was next resorted to, the patient having been in labor about eighteen hours. In ten minutes the patient vomited, the os was soon found to yield, the pains increased in force, and in a few minutes delivery was accomplished. Dr. Milne does not claim that this rapid result establishes the value of the last remedy used, as the effect might have followed from the combination of medicines employed; but thinks the apomorphia well worthy of a trial in similar cases, until its true value is established.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 259.—*On Constipation in Infancy.*

By Dr. ALVIS MONTI.

(*Wiener Medizinische Presse*, xiii. 26–28, 1872; *Schmidt's Jahrbücher*, No. 10, 1872.)

The author regards as the causes of the obstruction so frequently met with in infants insufficient development of the intestinal muscular structures, the peculiar nutrition and mode of life of children during the first year of life, and the length of the descending colon, especially the sigmoid flexure. Through this the feces lose their semi-fluid consistence and form firm masses, consequently the act of defecation, which in and by itself ought not to be preceded by any effort, becomes difficult, and is associated with colicky pains; these pains come on sometimes before defecation, sometimes periodically and independently of this act; in the latter case meteorismus occurs, which on its side leads to symptoms of dyspepsia. The colicky pains may be owing to reflex spasms, especially in children affected with congenital hydrocephalus, microcephalus, cranio-tabes, rhachitis, or intense anemia. As results of the distension in difficult defecation atony and paralysis are often met with. In connection both with temporary and habitual constipation dysuria frequently occurs.

The author goes thoroughly into the etiology of infantile constipation, and gives the following as its causes:—

1. *Mechanical impediments*:—

(a) *Congenital malformation of the intestine* (congenital partial and total imperforation or stenosis of the rectum): Retention of the meconium with consecutive symptoms of intestinal obstruction.

(b) *Acquired mechanical impediments*: Strangulation of a hernia or invagination of a portion of the intestine, fissure of the anus, acquired atresia ani, and partial stenosis of the rectum.

2. Failure in nutrition through congenital malformation of the lips or fauces, through sore nipples or an insufficient secretion of milk on the part of the mother or nurse, and through weakness of vital power on the part of the suckling child.

3. *Faulty nutriment*: Too much casein and too little fat in the milk, or too frequent sucking at the breast; in feeding by hand, unsuitable or insufficient nutriment; bad milk or a too early supply of starchy food.

4. *Loss or diminution of the peristaltic movements of the intestines*: Atrophy of the intestinal canal, with meteorismus or rickets, or after long-continued diarrhoea.

5. *Diminution of the intestinal secretion* after lingering affections resulting from anæmia.

Intestinal obstruction is, moreover:—

6. Symptomatic of diseases of the brain and spinal cord;

7. A result of deficiency of fluid nutriment, of the use of astringents, of the presence of ascarides, fruit seeds, etc.

8. In grown children a result of want of exercise.

Treatment.—This will vary according to the cause of the contraction, but one should not only remove the accumulated feces, but also prevent a return of the accumulation. In order to attain the former it suffices with young children to administer small and frequently repeated doses of rhubarb, syrupus rhamni cathartica, and other mild purgatives. Clysters are useful only in cases where a speedy relief of the bowels is required. Suppositories are not of use in cases of habitual constipation.

The causal treatment is indicated by the above scheme of the conditions on which constipation in children may depend. In cases of failure of the peristaltic action of the intestines the author recommends cod-liver oil, to be taken internally, and clysters of cold water. In cases of prolonged disease of the intestine, especially in grown-up children, mineral waters are indicated, such as Marienbader Krenzbrennen, Franzensbader Salzquelle, and others. For anæmic children Gleichenberger and Franzensbader waters are recommended in daily doses of 30 grammes for patients under two years old; of from 60 to 100 grammes for those above this age. The mineral water should be taken on an empty stomach.

ART. 260.—*On Oxide of Zinc as a Remedy for the Diarrhœa of Infancy and Childhood.*

By DAVID J. BRAKENRIDGE, M.D., F.R.C.P.E., Extra Physician to the Royal Hospital for Sick Children, Edinburgh.

(*Medical Times and Gazette*, Feb. 15.)

During the last three years Dr. Brakenridge has carefully tried various methods of treatment in many hundreds of cases of diarrhœa of infancy and childhood at the dispensary of the Edinburgh Royal Hospital for Sick Children. Before he had proceeded far in the study of the disease he became convinced that the nervous system played a much more important part in its production than was generally attributed to it. He believed, therefore, that it could only be safely and successfully combated by a method of treatment which, while it took into account the condition of the alimentary secreting surfaces, acted principally upon and through the nervous system. Whether the considerations on which he was thus led to select a remedy and by which he accounts for its action are right or wrong, the value of the remedy itself remains unaltered.

These may be briefly stated as follows: First, the disease depends chiefly on a weak and too impressionable state of the nervous-centres presiding over alimentary secretion. Secondly, it is correlated to convulsions and other spasmodic diseases. Thirdly, it is accompanied by hyperæmia of the secreting surfaces of the alimentary canal. To meet these indications we must have a remedy, which is—firstly, tonic; secondly, antispasmodic; thirdly, astringent.

In the oxide of zinc we have these three properties happily combined. First, as a tonic, it has been said to be to the nervous system what iron is to the blood. Its usefulness in the analogous condition of profuse sweating is well known. Secondly, as an antispasmodic, it is deservedly held in high estimation, and has been found frequently to effect a cure in convulsions and other spasmodic diseases. It may, therefore, be depended upon to prevent the occurrence of those nervous diseases which stand correlated to diarrhœa as the alternative results of such irritations as dentition, worms, etc., and which may supervene on the rude stoppage of a diarrhœa by astringents. Thirdly, its astringent properties are well known.

Dr. Brakenridge has given the oxide of zinc in several cases of the diarrhœa of phthisis, occurring in the child, with rapid and marked benefit.

From a limited experience of its use in the diarrhœa of enteric fever, he anticipates that its employment in that condition will prove successful.

The oxide of zinc may be given in a mixture with mucilage and water, to which a little glycerine may sometimes be added with advantage.

ART. 261.—*On Lymphoma.*

By ARTHUR GAMGEE.

(British Medical Journal, Feb. 1.)

At a meeting of the Medico-Chirurgical Society, of Edinburgh, December 18th, 1872, Dr. Arthur Gamgee read a paper entitled "Cases of Lymphoma observed in the Royal Hospital for Sick Children, with commentaries, clinical and pathological." He began by discussing the relation of leucocythæmia and lymphoma to each other. He traced the history of our knowledge of lymphoma, from the observations of Hodgkin, from whom it was called Hodgkin's disease, to those of Virchow, Bright, Addison, Wilks, Murchison, and Burdon-Sanderson. Hodgkin's disease is a lymphatic anæmia in its essence, an enlargement of lymphatic glands with formation of secondary deposits. Virchow was the first carefully to study this, and to work it out to a true hyperplasia of the lymphatic glands, which secondarily spread to contiguous tissues, and even infiltrated the neighboring parts. Dr. Gamgee related at length the clinical history of cases, of one of which the following is an outline: J. R., aged five, was taken ill apparently of a low fever, was admitted to hospital in two months, and died within four months from the beginning of her illness. She had a tumor in the anterior mediastinum, and excessively hypertrophied cervical and mediastinal glands. The presence of the mediastinal tumor produced many curious lung-symptoms, but the lungs were found absolutely healthy. The blood was deficient in red corpuscles, but there was no increase in the number of white cells. When in hospital she was torpid and feeble; she was treated by vinum ferri, good food and stimulants, but without benefit. Before death the enlarged glands greatly diminished in size. At the necropsy the tumor was found to be the thymus much enlarged. It was adherent to the diaphragm, and projected more to the right than to the left side. The spleen and liver, as well as the lungs, were perfectly healthy. The enlarged glands were simply hypertrophied, no abnormal deposit being present. Sections of the different tumors and glands were shown under microscopes. Dr. Gamgee pointed out the abnormally rapid progress of the case. In the absence of secondary deposits, it resembled a case of splenic leucocythemia. This case also proved the occasional origin of lymphoid tumors in this situation in the thymus gland.

ART. 262.—*On the Treatment of Tubercular Meningitis.*

By Dr. JOSEPH BIERBAUM.

(Journal für Kinderkrankheiten, Heft 8-9-10, 1872; Gazette Hebdomadaire No. 8, 1873.)

"1. Moderate local bleeding will sometimes be advantageous in cases of tubercular meningitis attacking infants who had previously had apparent good health. In those cases, on the other hand, where the affection has been preceded by lengthy prodromata, an effusion of blood will often do more harm than good. Repeated local bleedings are very rarely salutary, and they should never be abundant.

"2. The application of cold compresses to the head is preferable to that of bags filled with ice or snow, and merits every confidence in the first stage of the disease, and even at the commencement of the second. At the later stages this treatment becomes uncertain or useless.

"3. Blisters are preferable as cutaneous revulsions to tartar-emetic ointment and to other kinds of irritants.

"4. Calomel has as yet proved itself the most sure remedy, and is indicated in all stages of the disease. It should be presented in fractional doses, care being taken to prevent salivation.

"5. If the febrile action be intense, nitrate of soda will be found useful at the

commencement, whilst acetate of soda will render greater service in the more advanced stages of the affection.

"6. Laxatives are not indicated except when there is constipation, intestinal derivatives are pernicious, and drastics should be absolutely banished.

"7. Nitrate of potash may be used in small doses in the advanced stages of the affection; although but little confidence is to be placed in the efficacy of this medicinal agent.

"8. Tartar-emetic, under any form, should be rejected. Digitalis, squills, and other diuretics are not useful; and the same may be said of diaphoretics and baths.

"9. Narcotics, especially opium and its derivatives, have generally but very little efficacy, and ought also to be rejected.

"10. Antispasmodics merit very little confidence; at the most one may have recourse to pure oxide of zinc, in order to combat the convulsions.

"11. Tonics may be administered only in the stage of convalescence. Finally, the sulphate of quinine may be administered with advantage during the decline of the malady."

ART. 263.—*Scarification of the Gums.*

By J. LEWIS SMITH.

(*Treatise on the Diseases of Infancy and Childhood.* Philadelphia, 1872.)

Dr. Smith says that the gum-lancet is now much less frequently employed than formerly. It is used more by the ignorant practitioner, who is deficient in the ability to diagnosticate obscure diseases, than by one of intelligence, who can discern more clearly the true pathological state. Its use is more frequent in some countries as England, under the teaching of great names, than in others, as France, where the highest authorities, as Rilliet and Barthez, discountenance it. It is well to bear in mind the remark of Trousseau, that the tooth is not released by lancing the gum over the advancing crown. The gum is not rendered tense by pressure of the tooth, as many seem to think; for if so, the incision would not remain linear, and the edges of the wound would not unite as they ordinarily do by first intention within a day or two. If there be no symptoms except such as occur directly from the swelling and congestion of the gum, the lancet should seldom be used. The pathological state of the gum which would without doubt require its use, is an abscess over the tooth. As to symptoms which are general or referable to other organs as fever and diarrhœa, the lancet should not be used if the symptoms can be controlled by other safe measures. All co-operating causes should first be removed, when, in a large proportion of cases, the patient will experience such relief that scarification can be deferred. If the state of the infant be such that life is in danger, as in convulsions, or there be danger that the infant will be permanently injured or disabled, as by paralysis, every measure which can possibly give relief should be employed without delay. In these dangerous nervous affections, therefore, the gums, if swollen, should be lanced.

ART. 264.—*Treatment of Infantile Syphilis.*

By M. BLACHEZ.

(*Thesis on the Treatment of Syphilis.*)

M. Blachez considers the important question whether pregnant women who are syphilitic should be treated with mercury ought to be settled in the affirmative. He cites M. Depaul's results as demonstrating a greatly reduced mortality in the infant from this practice (which is nearly universal in this country). M. Depaul states that, out of two hundred and four cases of pemphigus in still-born children, he found only one case distinguishable as of syphilitic origin. Favorable results of mercurialization of the infant through the mother's milk are cited, as well as of the ordinary methods of inunction, the administration of bichloride, and of the mercurial solution of Van Swieten.

ART. 265.—*On the Primary Dentition of Children.*

By FRANCIS MINOT, M.D., Harvard.

(Boston Medical and Surgical Journal, January 2, 1873.)

Dr. Minot, in speaking of the diarrhœa complicating teething during hot weather, recommends the common chalk mixture, with the addition of one-fourth part of tincture of kino, which increases its astringency, and also keeps it from turning sour in hot weather. If the diarrhœa be not stopped by this mixture, one drop of laudanum may be added to the dose, but not oftener than three times a day, in children under two years old. Diarrhœa is most apt to attack children who are brought up on the bottle; hence, if the case be urgent and does not yield to treatment, a wet nurse should be procured if possible. When this cannot be done, he would strongly recommend the methods of preparing the milk with arrow-root and gelatine, found in the treatise on Diseases of Children, by Drs. Meigs and Pepper. Brandy is very useful to a teething child exhausted by diarrhœa, which should be given once in three or four hours, or oftener in urgent cases. The dose is ordinarily from five to twenty-five drops, given in milk; but if there be much prostration the physician need not fear to increase the amount.

ART. 266.—*Spinal or Essential Palsy of Children.*

By M. ROSENTHAL.

(Centralblatt f. d. Med. Wissenschaften, No. 11, 1872.)

M. Rosenthal, in the fifty-second number, 1871, of the *Oesterreich. Zeitschr. f. Prakt. Heilkunde*, observes that atrophy and malformation of the anterior cornua of the spinal cord, as first pointed out by the French pathologists, are the chief pathologico-anatomical alterations met with after death in the so-called spinal paralysis of children. According to M. Rosenthal, the atrophy of the nerve cells of the gray-substance is not so much the primary morbid change, as the enlargement and thickening of the bloodvessels observed by him, signs of an active participation of the latter in the diseased action going on, a pathological process which in its progress becomes the cause of the waste, or even entire destruction, of the gray substance of the brain. In opposition to the views of Duchenne, M. Rosenthal has observed that improvement may take place in the motility of the paralyzed muscles, even though the lost Farado- and galvanic excitability of the muscles be not again restored.

Within the first six to nine months from the commencement of the attack, and hence beyond the eventual failure of the electrical excitability of the muscles, still is the prognosis not to be considered unfavorable.

In two cases of the essential paralysis of children reported by Damaschyna, there was likewise evident lesion of the vessels of the anterior cornua of the spinal cord. It would appear that the last-named gentleman, as well as Duchenne, is inclined to view this abnormal condition of bloodvessels as the primary cause of the paralysis.

APPENDIX.

ART. 1.—On Chlorozone.

An article professing to be a fluid of greater potency both as a deodorizer and as a disinfectant than any other at present in general use, and bearing the name of "Chlorozone," has recently come under our notice. It is essentially a permanganate so combined with chlorine, or a chlorinated alkali, that nascent oxygen and chlorine are simultaneously available. Both of these elements are well reputed oxygenating agents, and as there is no reason for imagining that either in any degree lessens the value of the other, we should imagine upon *a priori* grounds that this invention would be an exceedingly valuable one.

This opinion is borne out by the favorable testimony to its merits afforded by Dr. Noad's report, in which it is stated that "it is superior to Condy's permanganate both as a deodorizer and as a disinfectant, its action being longer sustained." This conclusion, which Dr. Noad states he arrived at after a "series of experiments," affords very strong presumptive proof of the excellence of "chlorozone."

We are informed that this fluid is already in use in several hospitals, etc., and that in no case has any fault been found with its effects. The constituent chlorine, whilst in a loose state of combination, is yet so easily capable of exerting its destructive power upon putrescent or putrescible bodies as to be practically free, though the solution, however much diluted, does not possess any tendency to spontaneous decomposition, which would inevitably be the case if the chlorine were merely in solution, instead of being, as it is, in conjunction with an alkali.

To all who have any requirement for a good disinfectant, having a slight chlorine-like odor, we can recommend a trial of the "chlorozone," feeling assured that it is equal to if not the best among the many now in use. That it is perfect we have no wish to assert, but neither is any of its compeers; and those who have experienced the want of a stronger and more efficient fluid disinfectant than those ordinarily employed will find at least a satisfaction in following our recommendation with respect to "chlorozone." We may add that it is claimed for this invention that it is the cheapest disinfectant in the market.

ART. 2.—On the Convulsive Diseases of Women.¹

By ROBERT BARNES, M.D., Obstetric Physician to St. Thomas's Hospital.

(*Medical Press and Circular*, May 14, 21, and 28.)

The Lumleian Lectures were this year delivered by Dr. Barnes, who took for his subject "The Convulsive Diseases of Women."

In the course of the first lecture Dr. Barnes said:—

"The Father of Medicine, a great intellect, himself might master all the Medical Science of his age; but such a comprehension has never fallen to the lot of his posterity. Grasping what he did, and epitomizing it for future ages, one can imagine the old seer, inspired by the vastness of his thoughts, seeking to embody in one pithy and pregnant formula his prescient estimate of the wonderful growth of the art which he practised and taught.

"How far that clear intelligence, or the still brighter genius of Harvey, who practised midwifery, would have approved the actual, minute, and still proceed-

¹ Lumleian Lectures delivered at the Royal College of Physicians.

ing subdivision of Medical practice, it is now useless to speculate. It is hopeless for any one man so to practise, and so to study, all the branches of medicine as to combine harmoniously, and profitably for science, the diverse materials that would accumulate upon him. He would be crushed under the overwhelming load.

"There is nothing to be done, then, but to distribute the work amongst many workmen; and on all suitable opportunities to call them together to aid in building up the ever-rising, but never-to-be-completed, Temple of Medicine.

"Yet it must surely strike those who reflect, that subdivision of Medical practice may be carried out to an injurious, even to an absurd, extent. The true Medical mind will always refuse to look upon any one organ of the body as anything more than a dependent part of a whole. But the public seems to grow less and less reasonable upon this subject every day. I have recently been honored by a visit from a lady of typical modern intelligence, who consulted me about a fibroid tumor of the uterus; and lest I should stray beyond my business, she was careful to tell me that Dr. Brown-Séquard had charge of her nervous system; that Dr. Williams attended to her lungs; that her abdominal organs were intrusted to Sir William Gull; that Mr. Spencer Wells looked after her rectum; and that Dr. Walshe had her heart. If some adventurous doctor should determine to start a new specialty, and open an institution for the treatment of diseases of the umbilicus—the only region which as my colleague, Mr. Simon, says is unappropriated—I think I can promise him more than one patient.

"The fragmentary way in which medicine is studied, more especially in this town, undoubtedly interposes a serious barrier to the advancement of true knowledge. And it is not difficult to see that it acts injuriously upon the Medical mind, disposing those who too exclusively study one branch to underrate the merit, and even honesty, of those who study a different branch. This extreme splitting-up of medicine renders almost impossible the attainment of a full perception of pathology, or even of the import of any disease or symptom. It destroys the very idea of correlation, of the mutual reaction of different organs, and of the modes by which all the organs may be affected by one common condition.

"There are three epochs, or rather stages in the life of woman, at which she exhibits special proclivity to nervous diseases marked by convulsion. In the first stage, that of infancy, the proclivity is common to both sexes, but more marked in the female. The peculiar state of the nervous system in infancy, its preponderant development, its special susceptibility to emotional and physical irritation, is intimately connected with the wants of a rapidly developing organism. The next stage of proclivity to convulsion begins with the advent of menstruation, and terminates with the cessation of that function. This stage, of course, includes, and is continuous with, that of sexual life or reproductive capacity. It is during this stage that the proclivity to convulsive action is the most strongly marked. The third stage runs almost imperceptibly on from the second. It is difficult to draw a sharp line of demarcation between them. Theoretically, however—that is physiologically—the two stages are distinct. The third stage begins with the decay of the reproductive capacity, and is prolonged for an indefinite period, ranging from one or two to five years, or more, but is seldom prolonged into the age of senility.

"This third stage may be called the stage of aberrant nervous action. During the two earlier stages the nerve-force is employed, except when disordered by morbid influences, in the work of definite functions. These functions being at an end, and the organs by which they were performed undergoing the involution of decay, there follows a period of anarchy, during which nerve-force, no longer finding useful employment, goes astray in every direction, provoking the wildest and most extravagant manifestations. By-and-by, the stage of adaptation or re-adjustment arrives; the nerve-force generated finds appropriate occupation, and all settles down into comparative order and calm.

"During all the three stages of life marked by convulsive proclivity there is an exalted degree of emotional sensibility. We might even generalize

further, and affirm that emotional sensibility proceeds *pari passu* with the convulsive liability. Almost always co-existing, it might be said that the two conditions are convertible into each other. Certainly it may be said that each will often excite the other. Nothing is more common than for an emotion, which, under ordinary circumstances, would be completely controlled by the subject, to evoke a fit of hysterical, epileptic, eclamptic, or vomitive convulsion, when the nervous centres are in a state which we may describe as *convulsive tension*. And on the other hand, if the convulsive fit be excited by reflex irritation, it is almost surely followed by an exalted degree of emotional sensibility.

"It further deserves to be noted here that emotion takes a large part in every act or process of the generative function. In short, emotional affectability is the measure of convulsive liability.

"To show how nearly an expulsive labor-pain is allied to convulsion, we have but to observe the course of a pain towards the end of labor. A premonitory shudder, the forerunner of the storm, often a rigor, often vomiting, usher in the pain, just as we frequently observe before the outbreak of a fit of epilepsy. Women have told me that at this moment they felt sure they were on the verge of convulsion. From the moment that the uterine contraction begins, voluntary power to stop the action ends; the patient may, indeed, give intensity to the effort by adding the force of voluntary effort, but she can hardly lessen it. And in a true expulsive pain, she is even unable to withhold the aid of the voluntary muscles. This may seem contradictory; but the fact is, that at a certain point the expiratory muscles, which are usually under the control of the will, cease to be so. The glottis is closed; the chest-walls are fixed; the expiratory muscles contract powerfully; the muscles of the neck compress the veins. There is, as in epilepsy, trachelismus; black blood circulates, or is delayed, in the brain. Delirium or temporary unconsciousness supervenes. The resemblance to epilepsy is, for the moment, so close that the two conditions can hardly be distinguished. If in such a case a dose of ergot be given, the convulsive character is so intensified as to make the resemblance even closer still. The ergotic contraction may last for ten or even twenty minutes; it is almost tetanoid in its character. Under the strain it puts upon the lungs I have seen universal emphysema occur, spreading from the neck; and the strain upon the vessels may cause rupture and extravasation, apoplexy; and this even when no ergot has been given. This is the history of some cases of sudden death in labor.

"How can we account for that enormous supply of nerve-force by which the work of parturition is effected? It is hardly an exaggeration to say that, in many women, there is a larger expenditure of nerve-force in the execution of this function, all spent within a few hours, than they have ever before expended upon muscular exertion for weeks and months together. For many women, the day of childbirth is the only day's hard work they have ever known. What does this imply? It seems to me to be a physiological necessity that to generate the inordinate supply, a corresponding development, a physiological hypertrophy, analogous to that which takes place in the heart, should take place in the spinal cord. This hypothesis is based purely upon physiological and clinical inductions; and Dr. Barnes has no anatomical data upon which to support it. In the ordinary condition, the healthy correlation of resisting power, of irritation, and of nervous energy is so harmoniously preserved that all works in an orderly circle. But disturb this correlation, and the nervous energy is wasted or misapplied. What are the chief causes of disturbance? Clinical facts show them to be: 1. Altered conditions of the blood. 2. An hereditary or acquired peculiarity in the nervous centres.

"Both of these conditions need not co-exist; one of them is enough.

"To bring together the factors which combine to produce a fit of puerperal eclampsia, we find them to be:—

"1. Accumulated irritability of the nervous centres, the product of an altered state of nutrition induced in them by pregnancy, so as to provide a due supply of nerve-force for the work of the uterine muscles and the muscles auxiliary to the uterus.

"2. An eccentric stimulus usually conveyed from the uterus to the nervous centres; calling these into action.

"When these two factors only exist, a healthy labor may result.

"3. But a new factor may be superadded. An example of this we find in that peculiar state of the blood which is marked by albumen in the urine. The blood is literally poisoned. When this toxæmic condition exists in pregnancy, two things are always threatening: the one is premature labor, the other is eclampsia. Either event may be the first in order, each may provoke the other. It has been commonly supposed that labor is the immediate cause of the convulsion. But this is only true in a limited number of cases. At any moment a pregnant woman, the subject of albuminuria, may be seized with convulsion without the slightest evidence of an initiatory attempt at labor. The fact is, that the poison in the blood, intensifying the irritability of the nervous centres, disposes them to respond by a storm of nervous energy on any excitation; and thus to anticipate the normal advent of labor. A third, and a negative result may happen, which it will be convenient to dispose of at once. The pregnancy may continue to term, and no convulsion may occur. This event was stoutly denied by the late Dr. Lever, who was one of the first, if not the first, to establish the connection between albuminuria and puerperal eclampsia. But absolute, universal dogmas in medicine are dangerous. They are probably always wrong.

"Analyzing the history of fifty-three cases of puerperal eclampsia, of which I have preserved notes, I find that in sixteen the convulsions broke out without any antecedent sign of labor; labor being an epiphenomenon caused by the convulsion, or induced by the Medical practitioner. I believe it is scarcely possible for eclampsia to break out, and for the pregnancy to go on. One of two things will almost certainly happen: first if not delivered, the cause of the toxæmia persisting, the convulsions will be continued and prove fatal by exhausting the sufferer by shock or by direct lesion of the brain; or secondly, labor will be induced by the circulation, or stagnation, in the nervous centres and uterus, of blood charged with excess of carbonic acid. Such blood acts, as Marshall Hall and Brown-Séquard have shown, as a direct stimulant to muscular contraction. Under its influence—and I am not now speaking from the authority of these great physiological experimentalists, but from my own careful clinical observations—the convulsion occurs first; one feels the os uteri perfectly closed, and no uterine contraction. Presently when one or more fits have occurred, when black blood is circulating, uterine action begins. Once started, the nerve-storm seizes the uterus as well as the voluntary muscles; the sphincters relax, the os uteri dilates, and the labor proceeds.

"It is only thus that we can account for the large proportion of cases in which labor comes on prematurely at six, seven, or eight months of gestation.

"I have, however, seen a case in which uræmic eclampsia broke out in the eighth month, and the pregnancy went on to term.

"I have said that the convulsion may be the immediate cause of labor. The converse is also true. Labor may be the immediate cause of the convulsion. Uterine action, with or without the pressure of the head upon the irritable neck of the uterus, acts as an excitor of convulsion. In a certain proportion of cases, the first fit follows upon the dilatation of the cervix and the contact of the head with the os uteri. The influence of uterine action may be clearly traced. After a fit there is a period of comparative calm, marked probably by stertor, coma, and mental unconsciousness. We hope that the calm will continue; but, presently, we see the patient writhing uneasily as if from abdominal pain; placing the hand upon the abdomen we feel the uterus contracting; and then a fit breaks out again. This order of events may be repeated several times. So long as the uterus is quiet there is no fit.

"We may test the effect of uterine irritation more directly still. We may ourselves apply the irritation by touching the os uteri with the finger for the purpose of examination, or with the view of accelerating the labor. In many cases a convulsion immediately follows.

"And this is an observation I have often made. It is at times necessary to pass the catheter. So great is the nervous tension, so lively the irritability of

the nervous centres, that the merest touch of the vulva induces such resistance—albeit the patient's mind is unconscious—that it may be impossible, without the aid of chloroform, to pass the instrument. Nor is the hyperæsthesia limited to the genital organs. The whole surface of the skin is irritable to an astonishing degree. It is a common impulse from which some Medical men are not free—to seek to exorcise the fits by dashing cold water on the face, by applying blisters and sinapisms to the neck or calves. A fit is too often the consequence. Irritation of the skin, especially the sudden impression of cold upon the face or chest, by its action upon the respiratory nerves, is a pretty sure way to provoke a fit. I have seen the jar, the shaking of the house, caused by a heavy carriage passing along the street, produce a fit. And when the stage of coma is passing off when consciousness is returning and with it emotional susceptibility, almost any mental impression will act like a physical shock; and again a fit is produced.

“But convulsion in pregnancy or labor may occur without albuminuria. In this case we must invoke an equivalent *tertium quid*, something which lends intensity to the normal physiological erethism of the nervous system. This something may be another kind of blood-affection, or it may be some altered condition of the nerve-substance associated with the strumous or syphilitic diathesis, or some indefinable hereditary taint.

“In another order of cases, the outburst of convulsions is deferred until the natural term of gestation. Here we may suppose one of two things: either the albuminuria did not begin until near this term—and this is probably often the case—or, existing for some time before, the induced irritability of the nervous system was not intense enough, or the stimulus was wanting to start the convulsions. This latter hypothesis is also often true. For albuminuria may exist, beginning in mid-pregnancy, and go on to the end without necessarily inducing either convulsion or labor.

“I have offered the conjecture that the blood-change indicated by albuminuria may arise rapidly, even suddenly. The observations must be very rare in which the urine, being free from albumen one day, has been found charged the next. Naturally, the urine is not examined unless there is a present pathological indication.”

In his second lecture Dr. Barnes illustrated in a most graphic manner the law of augmented centric nervous irritability. This he stated thus:—

“When the nervous centres are in a state of exalted tension, irritation telling upon whatever part, of the brain through the emotions, or of the cord through reflex action, seems liable to spread and involve the whole cord. And if one part, as in pregnancy, be especially irritable, this part will be excited to its special action. Or we might express it in another way. We may imagine the spinal cord to be a conductor along which an impression made at any point is transmitted rapidly to the rest, testing and calling into action any part which is in an especially excitable condition.”

“Although there is no condition to parallel that marked by albuminuria in the proclivity to convulsion, yet we find other conditions which strongly predispose to similar outbreak. The very difference in nature of these conditions supplies further evidence of the truth of the fundamental law, that in pregnancy there is a special and intense accumulation of nerve-force.”

The relations of epilepsy to pregnancy were illustrated by six cases. Two cases of Chorea in Pregnancy were related. It was next remarked “that the relation between a fit of ague and convulsion is too striking to be overlooked. Pregnancy and labor seem to exercise the same influence in causing a relapse as they do in the case of chorea.”

Analyzing these cases, amongst other lessons which they teach, Dr. Barnes gave the following:—

“1. There is the fundamental state of nervous tension or erethism due to pregnancy and labor.

“2. There is a degraded state of the blood, often vaguely called anæmia, but which is more strictly a form of toxæmia.

“3. In some cases to a degraded state of the blood is added a morbid dia-

thesis, which in all probability involves a peculiar organic modification of the nervous centres.

"4. Then there comes an emotional or physical shock, or a peripheral irritation, which, acting upon a system prepared to explode, determines the convulsion.

"Thus, in Case 1 there was a syphilitic diathesis—a condition well known to be capable of evoking or leading up to epilepsy in man. But in this case labor was necessary to determine the convulsions.

"In Case 2 epilepsy followed on the exhaustion produced by suckling. It is in cases of over-suckling that we see most strikingly the influence of exhaustion—say, of anæmia. The thin blood, deficient in red globules, can hardly afford proper nourishment to the nervous centres. But the term 'anæmia' or 'spanæmia' imperfectly describes the kind of blood-impairment found in these cases. Dr. Barnes observed that blood which, from its poverty, is incapable of nourishing the organs, and of stimulating them to the adequate performance of their functions, necessarily soon becomes contaminated by excrementitious matters. Spanæmia then implies toxæmia. Excretion is always imperfectly performed. Almost any animal poison in blood seems to possess the property of unduly exciting the nervous centres. There is hardly a fever which does not manifest evidence of cerebro-spinal irritation, by delirium, or by that form of convulsion known as *subsultus tendinum*. The poison of spanæmia is different from the specific poisons of fevers; but, like them, it irritates the nervous centres, and, like them, it is likely to cause various irregular, involuntary muscular actions, recognized as spasms, cramps, twitches. Returning to epilepsy provoked or evoked by over-suckling, Dr. Barnes said the case was a type of a considerable class. The mother goes through perhaps one or two pregnancies and lactations without serious ailment; but under repeated wear and tear, as in this case, at the third lactation, she breaks down. The blood is degraded, the nervous centres are ill-nourished; but, the function of lactation going on, there is maintained an inordinate centric irritability. Under these conditions, convulsion is near at hand. If there be present a convulsive diathesis, it is pretty sure to break out. If she have at any time been 'subject to fits,' it is almost certain that they will reappear now. That convulsions should occur, even where they had never occurred before, and where we can trace no evidence of convulsive diathesis, affords very strong presumptive evidence of the independent adequacy of the conditions we are discussing to produce them.

"Lactation, like pregnancy, imposes upon the mother the double duty of supporting two beings, implying a corresponding increase of nervous energy. Nor is this all. Throughout this work, of itself sufficient to tax the mother's powers to the utmost, the ovarian stimulus is commonly acting. In married women especially, the ovaries can hardly be kept in abeyance. They are always struggling to renew the cycle of the function of reproduction. The effort at ovulation frequently determines menstruation in spite of lactation; and even where the blood-flow—the outward manifestation of ovulation—does not occur, there is reason to believe that ovulation more or less complete goes on. This state, added to the excitation of the sexual act, causes a constant renewal of exaggerated cerebro-spinal irritability. Hence it is that we see, in some cases, a periodical recurrence of epileptic fits, although there may be no visible menstruation.

"Protracted lactation apart from ovarian excitement is not nearly so likely to lead to nervous exhaustion or to convulsion or insanity. Thus, it is no uncommon thing for women who lose their husbands whilst they have a child at the breast to go on suckling for an indefinite time. Concentrating all their emotional and other nervous expenditure upon this vicarious duty, the ovaries are kept in subjection; and there is no excessive development of spinal irritability." Dr. Barnes has known poor women, badly fed, hardly worked, continue to suckle for two, three, and even seven years, exhausted, it is true, in strength, but free from convulsions or insanity. The nervous diathesis was wanting.

"Still it is in pregnancy, when the tension of the nervous centres is at the maximum, that we see the most striking proclivity to epilepsy."

A most interesting case was related by Dr. Barnes as illustrating, in several repeated series of experiments instituted by Nature, almost all the points upon which he had dwelt, and which he thus summed up:—

"1. There was probably an hereditary predisposition to nervous disease.

"2. She never had fits unless when pregnant, except during the ten months between her eighth and ninth pregnancies, when she had a slight fit at each monthly period.

"3. The menstrual or ovarian nismus produced fits, shown by periodicity of recurrence during lactation and pregnancy.

"4. She had fits during the climax of coition, but never except when pregnant. This last fact or experiment affords striking evidence of the increased efficacy of irritation during the inordinate spinal erethism of pregnancy.

"5. The interesting preternatural irritability of the spinal cord is manifested in the repeated abortions following the first pregnancy.

"6. These abortions and the protracted lactations induced a gradual blood-deterioration, the effect of which culminated after six years of reproductive troubles, in the first epileptic fit during the nervous tension of pregnancy.

"The urine, examined at four different times, never showed any signs of albumen. The case was one of pure epilepsy.

"Although, as in this case, epilepsy will frequently excite abortion, it is not nearly so likely to bring on labor as eclampsia, showing that the blood-poison in the latter case is a special cause in augmenting the irritability of the nervous centres."

Turning to the subject of *vomiting in pregnancy*, Dr. Barnes said "that up to a certain point it seems to fulfil a useful physiological purpose. It is usually the first evidence of cerebro-spinal erethism produced by pregnancy. Its action may be compared to that of a safety-valve discharging the superabundant nerve-force, which might otherwise result in convulsion, abortion, or other mischief. Its constant occurrence in the morning seems to imply that at this time there is a maximum of central nervous irritability, so that comparatively slight peripheral causes will then act with more effect. The immediate irritating cause he believes to be the stretching of the uterine muscular fibre under the eccentric pressure of the growing ovum, and the turgescence of the uterine vessels. In many cases, after three or four months the balance is restored, and the vomiting either ceases or is so moderate as to be easily tolerated. It is remarkable, however, that in not a few cases vomiting appears to set in almost from the moment of conception. These cases may be explained by the facts—(1) that conception has taken place, as it most commonly does, at a menstrual epoch—that is, when there is an exalted central nervous tension; (2) by the stimulus or irritation of coition."

Three groups of cases were separately considered. The first group—comprising cases of severe vomiting within the first three months—includes cases of women who have borne several children, as well as primiparæ; although probably the primiparæ are the majority. In these, the preponderating condition is the extreme convulsive tension of the nervous centres. The subjects are generally "nervous," susceptible to emotional and physical impressions. In some there are predispositions of a kind similar to those which operate in the production of convulsions. In some, and this may be especially predicated of those women who have already borne children, there is probably blood-deterioration. Sooner or later, indeed, blood-deterioration supervenes; but the influence of this factor does not appear to be necessary to produce vomiting in primiparæ in the first month.

In the second group—including cases of continuous vomiting increasing in severity—the initial conditions are those which mark the first group. But very soon another condition arises; obviously, continuous vomiting implies impaired or arrested nutrition. The influence of this seems to be to increase the irritability of the nervous centres. It is a matter of observation that if the strength can be roused, the susceptibility is diminished. But this is not all. The condition is not simply the negative one of want of nutrition. If food be not sup-

plied from without, the starved system feeds upon itself. Absorption goes on actively. The proceeds of tissue-change find their way into the blood, and empoison it. At this point the danger is extreme. The blood poison still further increases the irritability of the nervous centres; it oppresses the brain; delirium supervenes; and utter prostration is at hand. Every fit of vomiting acts as shock, and leaves the system more open to the next attack. At this point the slightest emotional impression, the gentlest touch on the skin, the offer of food or drink, will act as they will upon the sufferer from tetanus. At this stage diarrhoea is not uncommon. It bears further evidence of toxæmia. The indications of danger are, extreme emaciation; a pulse small, easily put out, exceeding 130 in a minute; hollow, staring eyes; hippocratic aspect; and delirium. Dr. Barnes has not seen a patient recover in whom the last symptom had persisted for a few days, supervening on the rapid pulse. The vomiting may now subside; even premature labor may take place; but the patient will sink notwithstanding.

In some cases, and the observation applies particularly to these first two groups, the urine is albuminous.

In the third group—that in which the vomiting becomes obstinate in the latter stages of pregnancy—the etiology becomes clear. The explanation offered by Dr. Barnes is this:—

“Normally, the uterus *grows pari passu* with the development of the embryo. The adaptation is so well balanced that there is no strain. But if the contents of the uterus be suddenly augmented, the harmony of correlation is destroyed. The uterus cannot suddenly grow to keep pace with the eccentric pressure within. Its fibres are stretched, in some cases torn, and vomiting results. Stretching of the uterine fibre is enough to cause vomiting, even where there is no pregnancy; *a fortiori* it is enough when the irritability of the nervous centres is exalted by pregnancy.”

In comparing some of the common features of resemblance or of relationship between the different forms of convulsive disease which occur in pregnancy, Dr. Barnes says, “we ought to include the relationship of syncope, vertigo, migraine, apoplexy, paralysis, delirium, insanity. They often form links of one chain or of different chains. Syncope and vertigo should be studied in their frequent relations to epilepsy; apoplexy in its occasional relations to uræmic eclampsia; paralysis in its relations with apoplexy and epilepsy; and insanity in its relations with epilepsy, eclampsia, and chorea.” Dr. Barnes said, “all these diseases, or symptoms, or pathological results, must be studied together in order that their true individual and cognate significance may be understood,” and leaving aside the deeply-interesting subject of puerperal insanity in its more usual forms, he called to mind that “all the convulsive diseases may culminate in mania or dementia.

“What is it then that determines epilepsy in one case, vomiting in a second, chorea in a third, tetanus in a fourth? We must of necessity invoke a peculiar antecedent condition of the nervous centres, lying dormant, probably quite unknown or unsuspected, until it declares itself under the magical ordeal of pregnancy. In the case of epilepsy this is almost certainly so, and this is proved by those cases in which the subject had previously been known to be epileptic herself, or to have come of epileptic parents. That pregnancy should reproduce epilepsy in those known to be predisposed to it is strong presumptive evidence that there has been a similar predisposition, although hitherto latent, in those in whom epilepsy appears for the first time during pregnancy.

“In the case of chorea this dormant morbid something is even more clearly proved. In a considerable majority of the cases in which chorea has broken out in pregnancy, the disease had existed in childhood. Pregnancy could only be regarded as a renewing cause.

“But the postulate of an antecedent condition is most indisputably settled by the case of ague. We cannot conceive the possibility of ague being evolved solely out of the conditions of pregnancy. We know that other debilitating causes may also act in reproducing ague in persons who have once been under the influence of the paludal poison.

“But it is not so clear that an antecedent predisposing cause is necessary to

the production of eclampsia or obstinate vomiting or tetanus. In some cases of eclampsia, at any rate, it has been impossible to trace a history of convulsive affection, or to establish hereditary taint; whilst, in many instances, the convulsion has begun and ended with one particular pregnancy, the recovery being perfect, and leaving no mark of special nervous diathesis behind."

As to obstinate vomiting, though more common in women of known so-called nervous or susceptible temperament. Dr. Barnes has not been able in some cases to make out any presumable nervous proclivity.

The influence of loss of blood in producing convulsions has often been dwelt upon, and an essential factor has been thought to be found in anæmia, but Dr. Barnes thinks clinical observation will not support this hypothesis, at least not in its general application.

As to convulsions he said: "The convulsive movements sometimes, but by no means constantly, observed in subjects dying from hemorrhage differ materially in character from the ordinary epileptic fit. The observation of animals bled to death have only a limited application. Yet it appears to be chiefly from such observations that the advocates of this theory have drawn their conclusions.

"Probably few practitioners who do not practise obstetrics, and not even, it appears, many of these, have seen several cases of bleeding to death. It has been my fortune to see a considerable number. In most of them death was preceded by general tremor, a kind of universal shuddering; consciousness was sometimes not abolished, and in none was there trachelismus or congestion of the face. There was often vomiting, always distressing dyspnoea, and the pulse was rapid, scarcely felt or even extinct. These signs constitute a picture differing essentially from convulsions.

"In all these convulsive disorders the nutrition of the nervous centres is affected by some abnormal state of the blood; but the abnormal state is not the same in all. In epilepsy, in chorea, in hysteria, and, up to a certain stage, in vomiting, the alteration probably consists chiefly in that degradation which results from the impoverishment caused by excessive demand, and in the empoisonment of defective excretion. In eclampsia, supervening upon this, there is undoubtedly a special empoisonment by the elements of urine.

"For the evolution of any of these convulsive disorders the development of a peculiar tension of the vis nervosa seems to be a fundamental condition. For, unless pregnancy supervene to produce this peculiar condition, neither epilepsy, eclampsia, vomiting, or chorea would, in most cases, ever appear."

We pass now to the consideration that the rise of convulsive diseases in pregnancy puts to the test the various theories respecting the genesis of these diseases. This theme the learned lecturer thus treated:—

"Many are the theories, and discordant, of the pathogeny of epilepsy, of chorea, of tetanus, and of hysteria. Now, be these essential conditions what they may, anæmia, congestion, change of structure of the nervous centres, embolism, pregnancy must produce them all, and all must vanish suddenly with labor. Are these conditions so created and so disposed of? Great as I believe the pathogenic potency of pregnancy to be, I cannot go so far as this. We cannot, at any rate, admit that a gross structural change in the nervous centres is of the essence of epilepsy or chorea, when we see complete recovery ensue as soon as the pregnancy is over.

"We are then driven to conclude, with Voisin and others, that the visible alterations found in the brain and cord, in persons who have died of epilepsy or chorea, are consecutive on, not antecedent to, the disease.

"In a memoir I wrote some years ago on 'Chorea in Pregnancy,'¹ I adduced reasons for concluding that the graver symptoms—the paralysis, the mania, death—were produced by the repeated shocks of convulsion.

"No one who has watched a case of puerperal convulsions, or of obstinate vomiting, or tetanus, or who has himself experienced the torture of sea-sickness, can have failed to observe how each repetition of the fit weakens the power of resistance, rendering the nervous centres more and more susceptible to those

¹ *Obstetrical Transactions*, 1868.

impressions which started the affection. This increasing susceptibility is obviously the result of shock, aggravated, no doubt, by exhaustion from want of food.

"In the case of tetanus it can hardly be questioned that the fatal prostration is almost purely the result of the repeated shocks. The blood-poison, if any exist, and I believe it does, mainly acts by increasing central nervous irritability; it scarcely complicates the problem; and the mind often remains singularly clear. In uræmic convulsions, again, notwithstanding the complication with blood-poisoning, the effect of shock is clearly seen in the exhaustion following the fit, in the general muscular resolution, in the relaxation of the sphincters, and in the gradual return of nervous power during the intervals, under the influence of rest. I have seen almost sudden death in labor which could be ascribed to no other cause than the shock of pain, and the convulsed action of the uterus. In some cases of paraplegia arising in labor it seems reasonable to attribute the paralysis to exhaustion or shock upon the spinal cord. It is certain that some of these cases cannot be accounted for on the theory of pressure upon the nerves in the pelvis.

"It is greatly by the influence of shock that I would account for the cerebral disorder which so often attends the progress of puerperal convulsions, of epilepsy, and of chorea. The fits act as repeated shocks which stun the nervous centres. These shocks are equivalent to concussions. The *ictus epilepticus* is as real a blow as the apoplectic stroke. They exhaust and divert the nervous force, and after a time impair the nutrition of the nervous substance.

"In the case of chorea proceeding to mania, we have to note that the cerebral disease is almost always *secondary and progressive*.

"In cases of puerperal mania breaking out after labor, where there has been no convulsion, it may seem that some other factor than shock must be invoked. In some of these cases there is albuminuria: that is, there is blood-poisoning; and this may be taken to be the chief factor. But in other cases there is no albuminuria. But in all there is the shock of labor, with its attendant exhaustion, its severe physical and psychical revolution, acting upon the nervous system wrought up to a climax of irritability. It seems to me that convulsions, collapse, insanity, are not, indeed, interchangeable or convertible, but that the issue in any of these conditions is determined by the idiosyncrasy, or antecedent peculiarity existing in the nervous centres."

Dr. Barnes opened the third lecture with a consideration of convulsive diseases in the non-pregnant state, pointing out that "the ovaries are now again in the ascendant, and that the phenomena of menstruation are not unlike those of pregnancy. During pregnancy, the seat of the highest vascular activity is the uterus; the ovaries and breasts are greatly, though not absolutely, in abeyance. During lactation, the breasts exert, or should exert, the supremacy; but, as we have seen, the ovaries are constantly striving to regain the predominance of which they have been temporarily deprived.

"When lactation is over, the reign of the ovaries is undisputed. Such phenomena, then, as we have seen to take place during pregnancy, we may expect to find reproduced during menstruation. And this deduction is amply justified by clinical experience. The chief point of difference lies in the fact that menstruation does not occasion those marked changes in the constitution of the blood which play so important a part in the history of pregnancy. We may, then, expect to find in connection with pregnancy the more purely reflex nervous phenomena, minus especially the eclampsia which is so intimately dependent upon uræmia.

"In obstructed or morbid menstruation a fit of epilepsy or of hysteria, according to the constitution of the patient, may explode. If the organic predisposition be strong, such a fit may break out under the simple irritation proceeding from the ovaries, and their appendage the uterus. That is, it does not appear to be necessary to postulate an attendant unhealthy condition of the blood, although such condition is so frequently present at the onset of menstruation.

"Dysmenorrhœa commonly includes two factors. There is first, in many instances, difficulty in the performance of the proper ovarian function, mal-

ovulation, or, to coin a more expressive term, *dysootocia*. This is a prime cause of pain. The other factor is the disturbance in the secretion and excretion of the menstrual blood, the proper function of the uterus. Impeded secretion and excretion almost infallibly entails disorder in the quantity of the discharge. Menorrhagia is a frequent attendant upon dysmenorrhœa; and in many other cases the flow is deficient. But there is another condition which has attracted less attention, but which is not less real. Dysmenorrhœa, in a large proportion of cases, implies retention of some portion of the secreted blood in the cavity of the uterus. This adds uterine pain to ovarian pain, doubling the force of the irritation, and introducing a new element of blood impairment. Retained blood is liable to undergo a degree of decomposition, and hence to be a source of toxæmia. Thus we may have, and very frequently do have, as the consequence of dysmenorrhœa, a double degradation of blood going on, through hemorrhage or loss, on the one hand, and through empoisonment by absorption of foul matter, on the other.

"Todd said no nervous disorder is more certainly due to blood disorder than hysteria; and Briquet says the influence of defective hæmatisis over the nervous susceptibility is nowhere more evident than in the action which chlorosis exerts over the economy, and in the predisposition to hysteria which results from this action. Out of 430 hysterical patients he found 152 in whom chlorosis existed in a marked manner before the appearance of hysteria. This is quite true so long as we regard the blood-disorder as simply a provoking cause.

"The like explanation or statement will apply with equal point to neuralgia, which, in the large majority of cases in women, is produced by dysmenorrhœa and other ovario-uterine disorders attended by pain and exhausting discharges, which induce degradation of the blood and therefore morbid nutrition of the nervous centres, and increased susceptibility to external impressions.

"If it be true that dysmenorrhœa, menorrhagia, leucorrhœa, and other ovario-uterine disorders lead to blood disorder which so often precedes the outbreak of convulsive and other nervous diseases, it follows logically that we ought to begin by removing, if we can, these debilitating and irritating causes. By doing this we may often succeed in restoring the nervous system to the *status quo ante morbum*; thus proving the correctness of the observation that the utero-ovarian diseases produced the nervous disorders.

"It must be remembered that ovulation is a distinct function from that of menstruation. Menstruation is the outward indication of the ovarian process; but it is not a necessary consequence. It is not always coincident in time. It may not take place at all. The ovarian nîsus may begin a week or more before the menstrual flow. And it is the ovarian nîsus which is the chief cause of the central nervous erethism, and which at the same time supplies the centripetal irritation. This is no *petitio principii* invoked to bring apparent exceptions within a general law. There are abundant facts to prove this proposition familiar enough to those who observe closely the phenomena of the ovario-uterine functions.

"The periodical action of the ovarian nîsus is frequently observed in the arousing or exacerbation of mania, delusions, and other insane phenomena, in the inmates of lunatic asylums.

"The climacteric perturbation is often even more severe and more marked than what is observed at any previous period of life. Thus many women may have passed through the trials of puberty and of child-bearing without serious nervous disorder, and will break down at the menopause. Often, no doubt, this is the climax, the last ounce of a long troubled sexual life. Exhausting labors, consequent uterine disease, the cares incident to the rearing of a family, tell at last so that when the irregular and futile efforts which mark the close of sexual life are made, the nerve-force, missing its proper destination, breaks out in various aberrations. These nervous aberrations commonly entail irregular deviations from the proper order of the blood distribution, as well as alterations in the quality of the blood. That menstruation exerts a depurating action on the blood is an old idea. I believe it is a correct one. At any rate, when there is no longer a normal attraction or afflux of blood to the pelvic organs, the subject becomes liable to irregular determinations of blood to the head.

"About the climacteric the aberrant nervous distribution is attended by disorder of digestion, by disordered or obstructed secretion and excretion. The unsteady brain favors the general disposition to physical inertia. Want of exercise increases the sluggishness of the great depurating organs. The liver, the kidneys, the intestinal canal, the lungs, the skin acting imperfectly, allow the products of tissue-waste and of the mal-assimilated excess of food to accumulate in the circulation. This is marked by the urine becoming loaded with phosphates, and sometimes with uric acid." In some cases which Dr. Barnes has had special opportunities of watching closely, the outbreak of a fit of convulsions had been preceded by more than usual accumulation of phosphatic matter and of uric acid. It is interesting to remember that uric acid crystals are not seldom found in the urine and in the blood in the albuminuria of pregnancy. Dr. Barnes is not aware of any distinct evidence in support of the conjecture that uric acid, as such, is the exciting cause of convulsion, and he is not prepared to accept the doctrine of Frerichs that the cause is ammonia resulting from the decomposition of urea. He thinks it wiser to be content with the general conclusion that the poisonous convulsion-provoking element cannot be specified; but that it is to be found amongst the products that ought to be excreted through the agency of the lungs and glandular system.

"In rather a large proportion of cases, including not a few in which the climacteric has not been reached, this loading of the urine with phosphates and uric acid is greatly occasioned, or increased, by the habit of resorting to stimulants. In these cases, vomiting is a frequent complication; and in subjects not specially prone to epilepsy, constituting the chief nervous disorder. Occasionally albuminuria even is caused by the combination of alcoholism and phosphatic accumulation; it may persist so long as to give ground for concluding that it depends upon permanent Bright's disease. But it may vanish rapidly when alcohol is cut off, and the glandular system set to work, the nervous symptoms subsiding simultaneously."

The principles of the treatment flow logically from the view taken of the etiology and nature of the disease we have to deal with. Four cardinal principles were laid down by Dr. Barnes:—

- "1. To moderate central nervous irritability.
- "2. To cut off emotional irritants or excitants.
- "3. To cut off peripheral irritants or excitants.
- "4. To eliminate all complicating morbid conditions.

"The simplest measure which involves the least possible irritation is the best. That is, to puncture the membranes and leave the rest to nature, at least, until we see she fails to carry on the process. And since even the gentlest examination is often enough to provoke a fit, I would advise the previous induction of anæsthesia by chloroform. Under the cover of this state, the catheter should first be passed to secure an empty bladder, and to procure a good specimen of urine for testing. Then at the same sitting, the membranes should be punctured by a quill, stilet, or other suitable instrument. The diminution of the volume of the uterus by the draining off of the liquor amnii, lessening the pressure upon the vessels and the vascular tension, gives sensible relief. But another good effect generally follows; one it is true not without occasional drawbacks, but still a risk which must be encountered. The good effect is this; the moment labor is started a call is made upon the nervous centres for nerve-force to be expended upon the uterus. This is its physiological destination; and if it can be kept steadily directed to this, its proper work, we may hope to obviate its diversion to convulsion or other morbid action. It is, indeed, a matter of observation that uterine action will often excite a convulsion. But upon the whole, I am disposed to think that it acts beneficially; and we shall be the less afraid of calling it into operation if we reflect—first that labor must take place, and that it cannot be effected without this uterine action; and secondly, that we can greatly diminish the excess of irritability by the use of chloroform.

"The expediency of inducing labor when there is albuminuria without convulsion is more doubtful. As we have seen, it is certain that convulsions will break out.

"The induction of labor is the means of carrying off, or of discharging, the excess of nervous tension. But something more is commonly required. We cannot complete labor all at once. Sometimes we must wait, and not seldom, when the nerve-force has once got into a wrong channel, we shall fail to turn it all to the proper direction. Measures for moderating the excess of central irritability are almost always useful. The most available of these is the induction of anæsthesia by chloroform. It should be carried to the surgical degree—that is, to the extent of rendering the spinal cord irresponsive to irritation of the sphincters. The beneficial effect of this is sometimes very striking. The convulsive fit is rendered less violent; it is shortened. When anæsthesia is induced in anticipation of a fit, this may be almost entirely averted, and is sure to be moderated. The evidence in favor of chloroform has been greatly accumulating since Simpson's time. Chloroform blots out memory, one source of emotion; it cuts off perception, another source of emotion; it lessens reflex irritability. When chloroform or equivalent anæsthetics cannot be given we must act on the same indications. We must procure absolute rest; exclude noise, light; avoid all suggestions of disagreeable ideas; avoid all irritation of the skin. All this is especially necessary at the acme of spinal and cerebral irritability when a fit is on or impending.

"The second indication, to cut off emotional excitants, is one that is generally studied. The means of accomplishing it are entirely dictated by the surroundings of the patient. The third indication, that is to cut off physical peripheral excitants, demands more attention. The first impulse of many when they see a person in a fit, no matter of what kind, is to dash cold water in the face. There may be no great objection to this in hysteria; in syncope it is undoubtedly beneficial; but in eclampsia it is decidedly injurious." Dr. Barnes added—"I have seen it provoke a fit. Another not uncommon error in eclampsia is to apply blisters to the nucha, or mustard poultices to the calves. These applications do exactly what ought not to be done. The irritation they produce when the whole surface is in a state of hyperæsthesia, is doubly prejudicial. The immediate effect is often to excite a fit; and the continuous irritation set up in the skin can only keep up irritation of the nervous centres. There is no fact in medicine of which a stronger conviction has been forced upon me by observation than this, that all peripheral irritation is injurious in eclampsia. It is a sin against physiology. Hence the rule, when the situation dictates manipulation of any kind, to lull the system in the artificial sleep of anæsthesia before passing the catheter, before making a uterine examination, or proceeding to induce labor.

"These principles of action apply with almost equal cogency to the treatment of epilepsy in the pregnant state; they apply with quite equal cogency to the treatment of obstinate vomiting in pregnancy.

"In the chronic state of the menstrual or climacteric epilepsy—that is, when the fit has passed away, and when the indication is to break the morbid chain by preventing future fits—bromide of potassium, belladonna, and various metallic preparations, and a carefully ordered hygiene, are our chief allies.

"The indication to cut off all complicating morbid conditions is one that rarely admits of being fulfilled in the urgent cases of eclampsia and of the vomiting of pregnancy.

"The elimination of all complicating morbid conditions is especially necessary in the prevention and treatment of the convulsive and other nervous diseases of non-pregnant women. In a large proportion of cases, indeed, this constitutes the greater part of the treatment. This applies particularly to neuralgia, to hysteria, and, in a lesser degree, to the epilepsy of the climacteric period.

"The particular form of dysmenorrhœa which is most commonly the attendant and forerunner of nervous disorder is that which depends upon obstruction or partial retention of the menstrual fluid. It would be too wide a digression from our theme to enter with any detail upon the pathology and treatment of dysmenorrhœa.

"1. Beginning with the menstrual function, there is the pain which is one of the features of dysmenorrhœa.

"2. There is gradual wear and tear of the nervous system, attended by degradation of the blood.

"3. Increased susceptibility to physical and mental impressions, marked in many cases by the outbreak of hysteria, or neuralgia, and in a more limited proportion of cases by epilepsy.

"4. Where marriage ensues, it is generally unfruitful; proving again, by another test, that there exists an impediment to the due performance of the ovario-uterine functions.

"5. Where the obstruction is removed, as in most cases it can be, we find the preceding conditions gradually disappear. When menstruation is performed easily, the nervous complications, which are really epiphenomena, subside.

"If, on the other hand, the dysmenorrhœa be cured early—that is, before hysteria, neuralgia, or epilepsy have shown themselves,—these disorders will, in high probability, not appear at all. The presumption is great that they will be prevented; and that any *inherited* predisposition to them will remain dormant. The treatment then, both prophylactic and curative, must be directed against the dysmenorrhœa.

"In single women dysmenorrhœa is the most frequent attendant or exciting cause of hysteria or epilepsy. In a certain proportion of cases, however, no abnormality of structure or function of the ovaries or uterus is apparent. The exciting cause may spring up elsewhere; but in all there is a special proclivity developed by the normal ovario-uterine stimulus.

"In married women, and in those who have borne children, not only may dysmenorrhœa arise, but metritis, congestion, displacement, and other affections are more frequent. They hardly ever fail to induce that general debility and nervous prostration which predispose to nervous disorders. It is generally a hopeless task to cure these nervous disorders, unless we begin by relieving the local disorders upon which they so greatly depend."

ART. 3.—*Treatment of Diabetes with Skimmed Milk.*

By HEADLAM GREENHOW, M.D., F.R.C.P.

(*British Medical Journal*, June 7.)

At a meeting of the Clinical Society of London, May 23d, 1873, Dr. Greenhow read the case of a patient, successfully treated for diabetes with skimmed milk, on the plan of Dr. Donkin. W. H., coal-porter, was admitted into the Middlesex Hospital on November 9th, 1872. He had been of intemperate habits and subject to rheumatism and winter cough. On admission he was suffering from œdema of the right leg, and was passing a great deal of urine. He was kept under observation for some days, on a restricted diet, and was found to have night and morning cough, raising a good deal of sputum, which continued more or less whilst he remained in the hospital. On December 1st, he passed one hundred and two ounces of urine containing about four ounces of sugar by the fermentation test. He was then treated with opium, beginning with half a grain twice a day, and gradually increased to one grain three times a day. Beyond this it could not be carried, as the patient's bowels became obstinately confined, his tongue creamy and his pupils contracted. The quantity of urine somewhat diminished, but not the quantity of sugar contained in it. On December 12th, he began to take skimmed milk as exclusive diet; at first, four quarts, increased on December 20th to five quarts; and on January 4th, to six quarts daily. The brandy and opium were gradually decreased, and on December 19th were entirely discontinued. On December 12th, he passed ninety-five ounces of urine, of specific gravity 1035, reduced by fermentation to 1007, containing twenty-eight grains of sugar to the fluidounce. From this time the average quantity of urine diminished, though less steadily than the proportion of sugar it contained, which grew less and less, until after January 18th no trace of it was ever found, either by Trommer's or the fermentation test. From January 21st, his diet was gradually changed, and he was allowed bran, gluten cakes, eggs, ham, meat, and greens, with a smaller quan-

tity of skimmed milk. On March 12th. he was sent to Eastbourne Convalescent Hospital, and was readmitted to the Middlesex Hospital in April. for fourteen days, during which time he passed from forty to sixty ounces of urine in the twenty-four hours, perfectly free from sugar. and was otherwise in good health. He continued under observation after his discharge. and on May 23d. remained in the same satisfactory condition. Dr. Greenhow remarked, that he did not bring the case forward in order to recommend skimmed milk as a panacea for the cure of all cases of diabetes; he did not even assert that a permanent cure had been effected in this case; but so far as it had gone, he considered the case an important and interesting one, as showing that it was possible to maintain an adult in health and strength for many weeks on a diet of skimmed milk exclusively, and also that such a diet is, sometimes at least, successful in removing the glycosuria. He did not pretend to determine, from his limited experience, in what classes, or proportion of cases, of diabetes it would be found applicable, but thought no other treatment could have done more for W. H. In old-standing cases, especially if complicated with organic disease, it would undoubtedly fail, as do all other plans of treatment that have been tried.—Dr. Anstie asked what in this case would be the effect of removing the alcohol. That increased the urine and sometimes also the sugar.—Dr. Pavy said his own experience was diametrically opposed to the system of treatment by skimmed milk. He thought the author of the paper should have waited and collected other evidence. The case he considered exceptional. The patient's age was fifty-six, and with such patients one could do anything. No doubt the disease would have yielded to other measures. He did not stand up for the opium treatment in particular. He did not introduce it. After opium, the patient was put on skimmed milk. Twelve pints were given, and only sixty ounces of urine passed; he thought there must be something wrong here. He had tried skimmed milk. After it was given for a time, the patient would take other food; they wanted something solid. Sugar was not to be got out of fat; on the contrary, it was of the greatest use to diabetic patients. With skimmed milk, both thirst and sugar were increased. He tried it in a well-marked case of diabetes. The patient had done exceedingly well with restricted diet, improving in every way. He put him on skimmed milk; the urine increased; the sugar returned, and went on increasing. He was again placed on solid food, but did not perfectly recover. Female patients, too, complained of it. He objected altogether to the way in which this plan of treatment had been brought before the public. It had been brought forward as a cure for three of the most inveterate diseases known—Addison's disease, Bright's disease, and diabetes, cases of which had been said to be cured in a very short time. This he said he did not think right.—Dr. Donkin said that, as the originator of the skimmed-milk treatment of diabetes, he had listened with much interest to Dr. Greenhow's paper and the discussion on it. In a large number of diseases, and indeed, in most acute diseases especially, there was a natural tendency to recovery, either through what has been termed the *vis medicatrix naturæ*, or in consequence of a tendency on the part of the disease to run a definite course, and then subside. For this reason it was extremely difficult, if not impossible, to determine in these affections how far recovery in any given case was to be attributed to nature, and how much had been effected by remedies. But this did certainly not apply to diabetes; with it there was no conservative energy of the constitution at work sufficient to subdue it, and it showed no tendency whatever to end spontaneously in recovery. On the contrary, the disease, if left to itself, proceeds from bad to worse, and at last ends fatally. Now this was a fact of great importance, because it enabled us to determine with the greatest degree of exactness the operation on it of different remedies; for whenever improvement or recovery took place, it must be attributed to the treatment or remedy employed. Dr. Anstie had put a very pertinent and proper question in asking whether, in Dr. Greenhow's case, the patient having been intemperate, the withdrawal of stimulants did not produce recovery. In reply to this, he could refer to a case of diabetes in which the patient had been a total abstainer for fourteen years. He had been placed on a restricted diet, similar to that recommended by Dr. Pavy and others, by his

medical advisers, for a period of four months, at the end of which time he came to him, passing twenty-five grains of sugar to the ounce of urine, having a specific gravity of 1040. By a singular coincidence, this case was placed by him under the skimmed-milk treatment on the very day that Dr. Greenhow began it in his case, the 14th of December. The sugar was entirely removed from the urine in fourteen days. In January he began to take a more generous diet, and also to increase in weight rapidly. On the 8th of April last, he wrote to him the letter which Dr. Donkin handed to the President, in which it was stated that he had gained a stone in weight and that the specific gravity of his urine ranged from 1016 to 1020, never higher. He had since ascertained that his urine was free from sugar. He felt sorry at the manner in which Dr. Pavy had entered into the discussion. Dr. Pavy had written a book on diabetes, in which he asserted that, as milk contains from four to six per cent. of lactic, or milk-sugar, it must be injurious in the disease. But, more unfortunately still, in this book he had published a dietary table, in which he had placed milk at the head of the list of prohibited articles of liquid food, such as ordinary saccharine compounds. The fact was, that Dr. Pavy had bound himself to a dogma unsupported by a single clinical observation, and rendered untenable by his (Dr. Donkin's) own experiments. In 1847, '48, and '49 the speaker first observed the treatment of diabetes in the Edinburgh Infirmary, by Sir Robert Christison, who had always been a strenuous advocate of the dietetic method. During the quarter of a century which had since elapsed, he could state, conscientiously, that he had tried every known remedy, not only such as had been recommended by others, but several which had suggested themselves to his mind; but the result was negative. Opium he had often found to do more harm than good. Dr. Pavy had told the members of the society that opium was first prescribed for diabetes by a Scotch physician; but, if Dr. Pavy would look into Aetius, he would find it recorded that it was used as a remedy in the disease by Archigenes, in the second century, and everybody knew that it had been a common remedy ever since. It had occurred to him, that possibly skimmed-milk might prove an efficient remedy for the disease. He had a severe case of diabetes brought under his care, in the Sunderland Infirmary, but the result was partially a failure; the patient was an incorrigible, and could not be kept strictly on the diet. In the second case, however, he was successful. In the beginning of the year following, Dr. Wiltshire, who, he believed, was a member of this Society, but not present, was in Sunderland, and requested to see some of his cases. Dr. Wiltshire then examined the urine of two cases, which he visited with Dr. Donkin, for himself, and in each instance declared it to be free from sugar. In the one case the sugar had been removed only a few days, the patient having previously passed about 30 ounces daily, and from 25 to 32 pints of urine. The second case had been convalescent for three months and gained three stones in weight. Dr. Donkin said that he had not in a single instance published his own unattended experience. All his cases published were authenticated by the names of professional gentlemen who saw them in conjunction with him, or with whom he attended them in consultation. He wished to tell Dr. Pavy that he had as scrupulous a regard for truth as he had, and an enthusiasm for his profession quite equal to his. If Dr. Pavy could not believe his statements, surely he should show some regard for the reputation of those gentlemen whose names he had used. He desired to point out in reference to the skimmed-milk treatment of diabetes, that it differed from the restricted regimen introduced by Dr. Rollo, nearly a hundred years ago, and since more fully developed by the practical sagacity of the late Dr. Prout and Sir Robert Christison, in the following respects: First of all, it contained a saccharine alimentary principle, necessary for health, which was assimilated in spite of the disease; and secondly, it excluded all fatty substances which were injurious in the disease. There was certainly *prima facie* evidence that fat was converted into diabetic sugar, in the fact that in advanced cases patients might take such large quantities of fat, that the blood-serum might become milky, and yet, notwithstanding this the temperature of the body remained far below the normal standard. What became of the fat? It was, he said, certainly not oxidized and converted into heat, and certainly not deposited in the tissues. It most assuredly, he considered, underwent

saccharine metamorphosis, and of this he had satisfied himself by direct experiments. For this reason, cream, on account of the butter it contained, was certainly injurious in the treatment of diabetes.—Dr. Pavy explained that it was to the unwarranted use of the word cure that he objected.—Dr. Greenhow said he had brought forward the report of this case from no motive of advocacy, but in *bonâ fide*. He made no use of the word cure. Dr. Anstie's query was most pertinent, but he did not think that the withdrawal of the alcohol had anything to do with the improvement.

ART. 4.—*Case of an Abdominal Aneurism Successfully Treated by Proximal Pressure of the Aorta.*¹

By EDWARD HEADLAM GREENHOW, M.D., F.R.S., Physician to and Lecturer on Medicine at the Middlesex Hospital.

(*The Lancet*, June 7.)

In the year 1864, Dr. William Murray, of Newcastle-on-Tyne, communicated to the Royal Medical and Chirurgical Society a "Case of Abdominal Aneurism cured by Proximal Pressure upon the Abdominal Aorta." The patient remained well for six years, and then died of a second aneurism. It was found that the remains of the original aneurism consisted merely of a fibrous mass, and that complete collateral circulation had been established by the enlargement of vessels both on the outside and inside of the abdominal cavity. Last year a similar case, cured by the same means, was communicated to the Society by Dr. Moxon and Mr. Durham, of Guy's Hospital. These are the only two such cases which have as yet been fully recorded; and the author trusted that the report of a third case would not be considered superfluous, more especially as in this latter some of the results of the compression of the aorta appeared to have an interest apart from that belonging to the cure of aneurism.

Christopher F—, aged twenty-eight, warder in the House of Correction at Kendal, was admitted into the Middlesex Hospital, under Dr. Greenhow's care, on May 20th, 1872. He was a strong-looking man, and his health had been good until December, 1868, when he was on board H.M.S. *Princess Charlotte* as an able-bodied seaman. Whilst drawing water from alongside, he suddenly felt something give way in his abdomen. Was soon after invalided, and on his return home obtained employment as warder. In December, 1871, he again began to suffer and lose strength.

On admission, he complained of pain in the abdomen and loins, shooting downwards to the groins and thighs. A somewhat globular pulsating tumor about the size of a large orange was found in the abdomen, immediately above the umbilicus. It extended more to the right than to the left of the median line, and beat forcibly with an expanding lateral as well as with a forward impulse. Firm pressure over the aorta above the tumor, when the patient was sitting up, stopped the pulsation for the time being. The medical staff of the hospital having agreed with the author as to the nature of the tumor and the means to be attempted for its cure, Mr. Hulke undertook to apply the tourniquet.

May 25th.—Chloroform having been administered, Lister's tourniquet was screwed down between the tumor and the xiphoid cartilage, until pulsation ceased both in the tumor itself and in the femoral arteries. On account of vomiting the pressure was withdrawn after three-quarters of an hour. The impulse remained as before but the tumor felt rather more solid.

27th.—When the patient was thoroughly under the influence of chloroform Mr. Hulke applied the tourniquet with the same effect as before, and with two brief intermissions the pressure was maintained during four hours. After some time there appeared marked lividity of the lower extremities, which, as well as the lower half of the abdomen, became quite cold. Temperature taken between the toes was 90°. Sphygmographic tracings of the radial pulse showed increased arterial tension. The breathing became very shallow and gasping. Pulse from 100 to 120, respiration from 44 to 56 per minute. The removal of the pressure was immediately followed by the subsidence of all these symptoms.

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, May 27th.

The pulsation in the tumor was decreased, the forward impulse being much less forcible and the lateral expansion only slight.

For several days the patient suffered much from vomiting, the vomit contained altered blood, and from pain, numbness, and coldness in the lower extremities, more particularly in the right limb, which gradually disappeared as the circulation became re-established. The impulse in the aneurism very greatly decreased, until on June 10th it could scarcely be felt, and the patient was allowed to sit up for a short time.

June 25th.—The pulsation in the tumor having decidedly increased again in force during the previous week, the tourniquet was once more applied so as thoroughly to compress the aorta, and the pressure was maintained for three hours almost continuously. The pulse and breathing showed the same characters as during the former operation, and there was the same coldness of the lower extremities, and of the right more than the left foot. When the tourniquet was removed there was forward pulsation of the tumor, but no lateral expansion, and the tumor felt firmer and more solid.

During several days the vomiting and coldness of the extremities continued as before. The urine was albuminous for two days. The impulse in the aneurism continued to diminish till July 1st, when it could not be seen and scarcely felt. On July 14th the patient was well enough to be discharged home to Kendal.

September 20th.—In accordance with Dr. Greenhow's request, he returned to show himself. No pulsation was found in the seat of the aneurism, nor was there any distinct tumor remaining; but above the umbilicus, to the right of the median line, was an undefined somewhat movable hardness. No pulsation could be detected in the aorta from an inch above the umbilicus downwards, nor in the femoral, popliteal, or anterior tibial arteries.

Mr. Noble, of Kendal, who sent the patient to the hospital, wrote to Dr. Greenhow quite recently to say that the man was in perfect health.

It would appear certain from this case, taken in conjunction with Dr. Moxon's and Mr. Durham's, that the process of cure by coagulation of blood in the sac of the aneurism is not necessarily a rapid process, as it was in Dr. Murray's case, but may last during many days, and sometimes even for weeks. The direct effects of the pressure upon the pulse and respiration were very remarkable, and not less so, the secondary effects of the disturbed circulation on the stomach and kidneys, producing the hæmatemesis and albuminuria which followed the operations. The occurrence of such symptoms would seem to suggest that the intense arterial distension caused by the treatment might be attended by serious danger to persons suffering from any kind of organic disease, especially degenerative disease of the arteries.

Dr. Murray, of Newcastle, said that the plan pursued by Dr. Greenhow and Dr. Moxon was in accordance with his views, and confirmed them. In the cases he had seen when coagulation once set in, it proceeded very rapidly, and was complete, and he referred to a case of iliac aneurism under Dr. Heath, of Newcastle. The case had not yet been fully reported, but pressure was maintained for ten hours with no result; the pulsation was as free as before; the tourniquet was reapplied for twenty minutes, and at the end of the time the tumor was quite solid, and never pulsated again. In other cases, about six, the coagulation was within an hour; in his own case after three hours. He felt convinced that the coagulation occurred rapidly in those cases, and a long period, as fourteen days, was not needed to complete the operation.

The President (Dr. C. J. B. Williams) thought that the rapidity of coagulation would differ in different individuals, also that the tendency of chloroform to produce liquidity of the blood should be considered; it was probable that some other anæsthetic might be employed with greater advantage.

Mr. Holmes did not think that the operation was free from danger; in some cases it had been followed by death. Mechanical lesions of the gravest kind were often produced. He did not think the treatment should be employed in all cases. If an aneurism was rapidly enlarging it might be resorted to; but it was beyond justifiable surgery to do so if milder means would do. There was distinct evidence of injury from the violent pressure on veins. In three cases death had occurred. Then the prolonged application of chloroform was in itself a source of great danger. He thought a surgeon ought to consider if

abdominal aneurism could not be cured by milder means. Low diet and rest often ameliorated. In other cases it was amenable to slow pressure, as by a pad or finger for a portion of the day, and without the danger attending more forcible pressure. The latter was more efficient as well as more dangerous. Though the three successful cases had been reported, yet there were others which had been unsuccessful. As to the coagulation of the blood, he thought there were two ways in which it might occur. First, gradually, as shown in Mr. Durham's and Dr. Moxon's case, in one month; secondly, by the impaction of a clot in the artery, as in Dr. Murray's case.

Mr. Henry Lee said that it was stated in the paper that the urine was albuminous, and it was explained as due to increased pressure on the vessels of the kidney. This he could not understand, as the pressure was not applied below the origin of the renal arteries.

Dr. Greenhow said that, with regard to Dr. Murray's remark on slow coagulation, he could not see where there had been any failure in the management of the case tending to produce this. The pulse was quite stopped in the femorals on the application of the tourniquet, and continued so, as long as the pressure was maintained. He was not aware of unsuccessful cases treated in this way; as he had stated in the paper, he thought such treatment would be very dangerous in persons suffering from organic disease. He thought the danger in treating abdominal or aneurism below the aorta by means of Lister's tourniquet arose from shutting off the flow of blood to the lower half of the body. The tension in the arteries of the upper half of the body was extreme. He thought the hæmatemesis was due to the hyperæmia or over-tension of the arteries, not the veins, of the stomach; and that the albumen in the urine was due to the same cause. The man recovered from these in a few days.

ART. 5.—On Syphilitic Fever.

By M. FOURNIER.

(Paris Correspondent of the *British Medical Journal*, June 14th.)

M. Alfred Fournier, a sub-professor of the Faculty of Medicine, and a young distinguished syphilographer, has begun a course of lectures at the Hôpital de Lourcine (the Paris Lock Hospital) on syphilis as it occurs in women. "I need hardly say that all his lectures are very interesting, but there is one that deserves particular notice, as it treats of a subject but little known among practitioners, even among specialists, of that class who are in the habit of looking upon the affection about to be described as entirely apyretic, or merely symptomatic of some disturbance in the economy more or less connected with the perturbation caused by the affection in question, and not a sequence of this latter. I allude to what M. Fournier designates '*fièvre syphilitique*,' which, he says, is a sort of essential fever of a specific character, and is intimately connected with, or the result of the syphilitic diathesis. It presents itself in two different forms: it is sometimes purely symptomatic, and at others it assumes all the characters of an essential fever. The former is the less frequent, manifesting itself as an epiphenomenon of the syphilitic eruptions, and assuming the continued type which, however, is of short duration. The essential form principally manifests itself on the appearance of the secondary symptoms; the nervous temperament seems to act as a predisposing cause; while, among the proximate causes, may be named the expectant or want of proper treatment; and, in proof of this latter assertion, M. Fournier observed that, whenever syphilis was early and properly treated, the fever was generally *nil*. This essential fever sometimes assumes the intermittent, sometimes the continued type; it is irregular in its character, and occurs with or without paroxysms. It is, however, distinguishable from the same class of fevers of malarious origin by the following symptoms: In syphilitic intermittent fever, which is nearly of the quotidian form, the paroxysms recur at night; and it also differs from the malarious intermittent type by the absence of the cold and sweating stages, as well as by the absence of those complications generally met with in the ordinary intermittent fever; but the most characteristic feature is that the spleen remains unaffected, whether during or in the intervals of the paroxysms.

The continued type of syphilitic fever is like the common continued, either of the simple or paroxysmal form. M. Fournier described also a third form of syphilitic fever, in which the symptoms are very irregular, and therefore cannot be classed with any of the above types. Sometimes the fever assumes an adynamic character, somewhat analogous to typhoid, to which M. Fournier has given the name of 'typhose syphilitique.' The prognosis, however, of this latter is not so unfavorable as the genuine typhoid, and the patients recover, first from the adynamic condition, then from the fever; but the syphilis runs its course as if nothing else had happened. Another distinguishing character of the syphilitic intermittent consists in its unamenability to the action of quinine, so efficacious in ordinary intermittent fever; and the only agent that seems to have some influence on the progress of the disease in question is mercury, either alone or combined with the iodide of potassium; but while its efficacy has been proved in the intermittent form of syphilitic fever, its action in the continued form is *nil*, or at least uncertain. M. Fournier administers the mercury internally, unless counterindicated by the state of the stomach or bowels, in which case he replaces it by mercurial frictions. M. Fournier offers the above, not as a theoretical speculation, but as the result of clinical observations, taken for a series of years, and with the thermometer and sphygmograph in hand."

ART. 6.—*The Croonian Lecture at the Royal Society.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*The Lancet*, June 7.)

On Thursday, May 29th, Dr. Richardson delivered his lecture at the Royal Society, Burlington House, Sir George Biddell Airy in the chair. The subject was "On Muscular Irritability after Systemic Death," and the experiments performed in illustration of it proved that certain fishes and other animals were only in a state of suspended functions when apparently dead. A frog, for instance, contained in a piece of ice, revived on the ice being melted in an air bath. John Hunter had shown this first by direct experiment. Was it, said the lecturer, that the cold simply prevented coagulation of the myosine, so that the muscle was held ready for action? Did it simply hold the minute vascular elements in a state of paralysis, so that influx of blood into the muscular fibre was easily permitted on restoration of warmth? Or did the cold suspend the nervous function? The answer was left for future reply. Speaking of the effects of motor forces, the lecturer dwelt parenthetically on the common practice after sudden death of endeavoring to excite the action of the enfeebled heart by passing through it an electrical current. Some practitioners, he said, had gone so far as to introduce a needle into the heart itself, and to make the needle act as one of the conductors from a battery. Such experimentalists, before they undertook this operation on the human subject, should at least observe the effect of the agency they were employing on the exposed heart of an inferior animal recently and suddenly killed by drowning or by a narcotic vapor. They would learn, then, with what infinite facility the muscular irritability of the heart, in all its parts, was excited for a moment only to be permanently destroyed. They would learn that if blood be not passing through the muscular structure concurrently with their exciting current they could not more effectually arrest function than by the very method they had adopted to sustain it. On the subject of abstraction and supply of blood, it was shown that in all the cases of restored animation after apparent death, the condition of the heart was that of a muscle acting under the lower degree of tension. In this intermediate stage between syncope and death, the most striking results were obtainable, but beyond this stage the methods so successful during it were practically useless for restoration. Among the effects of chemical agents, it was stated that the nitrate of amyl was of great service. Frogs had been kept in it for nine days, and yet their muscular irritability and life had been subsequently restored. In one instance this restoration took place after the commencement of decomposition in the web of the foot of the animal. In the whole series of his inquiries on the action of nervous matter, no fact had impressed him more forcibly than this, that the mus-

cular irritability, in so far as it belonged to the muscle, might be sustained for hours after the nervous excitation which called it into spontaneous action had ceased.

ART. 7.—*Subperiosteal Excision of Hip-Joint.*

By JOHN CROFT, F.R.C.S., Surgeon to St. Thomas's Hospital.

(*The Lancet*, June 14.)

At a meeting of the Clinical Society of London, May 23d, 1873, C. B—, aged seven, was brought as an out-patient to St. Thomas's Hospital, on February 6th, 1871, suffering from the first symptoms of hip disease, on the right side, the result of a fall one month previously. His mother was in good health. A maternal aunt had died of consumption. His father died of rheumatic gout. He became gradually worse, and a large abscess formed on the outer side of the thigh, below the joint. On September 11th he was admitted into the hospital, and the abscess was incised. On November 22d, a slightly curved incision, three inches long, with its centre opposite the top of the great trochanter, was made down to the bone, dividing the periosteum. The soft parts were then turned aside, and the periosteum cut across at right angles to the first incision, just below the level of the small trochanter. With the bistoury the transverse division of the periosteum was carried round all but the inner and back part of the bone. Then with a periosteal elevator, like Dr. Sayre's, the periosteum was easily peeled back. An attempt was also made to detach the muscular insertions from the great trochanter, but this was not effected without the use of a knife. The top of the femur was sawn off with a chain saw, just below the small trochanter. This mass having been turned out by the elevator, the acetabulum was freely exposed. Five roundish sequestra, varying in size from a small to a large pea, were picked out of the floor of the space. The portion of femur removed consisted of the head, neck, and two inches of the shaft, measuring from the top to the great trochanter. The wound was partially closed by sutures. After the operation the limb was kept at rest, and extended by means of a bracketed long outside splint, or extension by weight. At the end of four weeks, passive motion was commenced. In the following July he was able to wear a boot and iron support. The last sinus finally closed at the end of the year 1872. When exhibited, eighteen months since the operation, he was in good health and spirits, and could run about. At the hip, very slight flexion and extension were allowed. The chief movement was of the pelvis on the spine. He could not rotate or abduct the limb. In this respect, therefore, Mr. Croft did not think he had been a gainer by the operation as he performed it. The limb appeared shorter than the opposite one. On measuring from the anterior superior spine of the ilium to the tip of the internal malleolus, the right leg was two inches shorter than the left; but on comparing the length of the right femur with the one not operated upon, the sound femur measured $11\frac{1}{2}$ inches, and the right bone scarcely the eighth of an inch less. From the crest of the ilium to the top of the shaft on the right side the distance was three inches, and from the crest of the ilium to the top of the trochanter on the healthy side, four inches. The anterior superior spine of the ilium, on the right side, was one inch above the level of the opposite point of bone. Mr. Croft remarked that though the case did not exhibit any superiority in the matter of range of movement, yet to the subperiosteal method of operating was due the remarkable and important fact that the diseased femur, from which two inches of shaft were sawn off in November, 1871, was now almost, if not quite, as long as the healthy femur in the opposite limb.

Mr. William Adams thought the case interesting, although motion of the joint was not obtained, and really fibrous ankylosis was the result, the same sort of issue occurring as in other hip-joint operations. He believed that the operative procedure in these cases was delayed much too long, and that when an abscess existed it was better to open it, and to operate immediately afterwards.

Mr. Barwell said that according to his experience Sayre's operation was by no means universally successful; there were many varieties in the mode of procedure, and the subperiosteal was not always advantageous. He also doubted the precise accuracy of the measurement.

Mr. Adams hereupon suggested that the limb should be measured forthwith, and Mr. Croft having assented, the President requested Mr. Callender and Mr. Christopher Heath to examine the child. The report of these gentlemen, brought up some fifteen minutes later, confirmed the accuracy of Mr. Croft's measurement.

Mr. Croft, in reply, combated the opinion of Mr. Adams as to the time when the operation ought to be performed. Most of these cases have a tendency to lead to waxy degeneration of internal organs, and according to his own experience it appeared that when suppurative synovitis with subsequent caries existed, the case would prove fatal, whereas if a case of necrosis be met with, and action taken early, it would do well. Mobility was retained by preserving the muscular attachments, showing the utility of leaving the periosteum on the top of the femur. Success would not always attend a great operation. In this case two inches were removed, and one inch reproduced.

ART. 8.—*Traumatic Rupture of the Tympanic Membrane.*

By W. B. DALBY, M.D., F.R.C.S.

(*The Lancet*, June 14.)

At a meeting of the Clinical Society of London, May 3d, 1873, Mr. W. B. Dalby reported five cases of traumatic rupture of the tympanic membrane, and five others also were mentioned as having come under his notice. In three cases the injury was caused by the head of a pin being thrust through the membrane; in three others, a needle, the point of a pair of scissors, and a blade of straw were used in the same manner. In the remaining four cases the rupture was caused as follows: by a fit of vomiting, by blowing the nose vigorously, by a box on the ear, and by pressing some cotton-wool into the ear. The terminations of these cases were very various, both as regards the healing of the rupture and the extent of permanently impaired hearing. In six out of the ten cases the wound healed, and when no inflammation in the tympanic cavity followed the accident, a few days sufficed for the perforation to close. In the other four cases the perforation did not heal at all, and in two out of three improved hearing was obtained by the use of an artificial membrane, in the form of a piece of moistened cotton-wool, worn pressed up to the tympanum. When suppuration had once been established in the tympanic cavity, the treatment pursued was the same as in cases where the perforation had been the result of disease, and consisted chiefly in the use of astringents. No treatment at all was adopted when the injury was not followed by inflammation in the tympanum. Mr. Dalby pointed out that it did not follow necessarily that the hearing was regained in a greater degree if the rupture healed than when the perforation remained, and that the greatest losses of hearing followed those accidents in which the greatest force was used in producing the rupture. The conclusion arrived at was, that the injury to the nervous structure of the ear behind the tympanum caused the loss of hearing rather than the injury to the membrane itself. Where the shock was very slight, as in the instance of injury from a needle or any sharp instrument, the hearing was regained completely or nearly so; but if the instrument used were blunt-pointed and considerable force was employed, the resulting deafness was proportionately greater. The same held true when rupture took place from sudden condensation of air in the tympanum (as in blowing the nose), or in the meatus (as in a box on the ear). It was quite impossible, Mr. Dalby said, to recognize a cicatrix in the tympanic membrane if the patient had not been under observation during the process of healing, as thinning of the membrane and other changes occurring during catarrh of the middle ear were sometimes so like cicatrices as not to be distinguishable from them.

Mr. Hinton confirmed the author's opinion as to the hearing powers, doubted whether a box on the ear would produce rupture, and said that all cases of this kind required most careful and accurate diagnosis.

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THE
HALF-YEARLY ABSTRACT
OF THE 78689
MEDICAL SCIENCES:

BEING
A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,
AND OF
THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcensitis, comportatis.
CICERO.

EDITED BY
WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

VOL. LVIII.

JULY—DECEMBER, 1873.



PHILADELPHIA:
HENRY C. LEA.
1874.

VALEDICTUM.

WITH this volume the publication of the "Half-Yearly Abstract of the Medical Sciences" will terminate. This announcement, we venture to affirm, will be received by a large proportion of the Profession with mingled feelings of regret and surprise. When the first volume of the "Abstract" appeared—twenty-nine years since—few books of a like nature were in existence. As years have rolled on, works not dissimilar have been brought out, and contemporary publications have, without exception, adopted a "periscopic" feature, thereby, to a great extent, superseding half-yearly retrospects.

W. DOMETT STONE.

OXFORD TERRACE, HYDE PARK, W.,
December 24, 1873.

The reasons alleged above for the discontinuance of the "Abstract" are perhaps not as applicable to the United States as to England. Subscribers may, therefore, rely that measures will be taken to supply them with a semi-annual digest of the improvements and discoveries in the medical sciences.

THE AMERICAN PUBLISHER.

PHILADELPHIA, Jan. 15, 1874.

PHILADELPHIA:
COLLINS, PRINTER,
705 Jayne Street.

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APPENDIX.

HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On the Properties of the Poison of Syphilis.*

By Professor BOECK and Dr. AXEL SCHEEL, of Christiana.

(*Schmidt's Jahrbücher*, No. 4, 1873.)

The authors made investigations on subjects affected with syphilis, and inoculated syphilitic pus, in order to determine how long the syphilitic virus retains its contagious properties, and what changes it might undergo under the influence of cold and heat, when dried, and when mixed with other substances.

With regard to the duration of the virulence of the syphilitic poison, the authors found that after having been kept in well-closed glass tubes, like those used for vaccine lymph, the virus always gave a positive result on inoculation until the fifth day, and always a negative result after the eighth day. Virus kept on a hollow glass disk for eight or eleven days always gave a negative result, and, according to the daily experiments made by the authors, it seems that virus thus preserved does not preserve its virulence beyond the third day.

In order to determine the influence of cold on fluid syphilitic ichor, the authors applied freezing mixtures to vaccine lymph tubes containing some of the syphilitic fluid. Fresh virus subjected to a cold of between 6° and 16° Réaumur was in all instances inoculated with positive results. Of three inoculations of virus which had been surrounded by ice for five days, two were attended with positive results; the pustules were small on the third day, but subsequently became well developed. Inoculations of virus which had been preserved in ice for twelve days, always gave negative results. The general conclusion drawn by the authors from these investigations is, that the syphilitic virus does not lose its power through cold, but, on the contrary, preserves it for a somewhat longer period.

Seven experiments were then made in order to determine the influence of heat; positive results were obtained from the inoculation of virus heated to 30° and 35° Réaumur. From the inoculation of virus heated to about 40°, no results were obtained. An inoculation of fresh virus, made on a part which was then covered by a fomentation, with the water heated to 40°, always gave positive results, even in instances in which the warm water did not remain in contact with the inoculated surface for more than half a minute.

Crusts of syphilitic pustules softened in water were then used for inoculation. The matter, when preserved for a period not longer than six days, was inoculated with positive results, but when more than six days old its results were uncertain. In one instance, however, the authors obtained a positive result

from the inoculation of the softened portion of a crust which was twelve days old. Syphilitic ichor was allowed to dry on a lancet into a thick crust, and then, after it had remained in this state for eight days, was inoculated in five places; in one there was a positive, and the other four a negative result. It seems from those experiments that the syphilitic virus, contrarily to what happens with vaccine lymph, retains its inoculability for a longer period in the dry than in the fluid condition. Inoculation with a lancet but just soiled by syphilitic virus, which could not dry into a thick crust, and which was not preserved for more than one day, gave a positive result in one only out of seven experiments. In one of these the result was uncertain, and in five negative. Experiments made with virus preserved thus for two days or longer, always failed. The possibility of transferring syphilis by means of a dirty lancet or other instrument, seems not to exist to such a degree as has been so frequently stated, and it is possible that in many of the supposed instances of this mode of transference, the true source of the contagion had been kept secret. The inoculation of syphilitic virus allowed to dry on a lancet, and mixed with water immediately before the operation, was always attended with a positive result in instances where the virus was not more than four days old; after the seventh day the experiment failed. Whether the syphilitic crust be thick or thin makes, therefore, considerable difference in the results of inoculation.

Experiments with syphilitic virus allowed to dry on lint, and then moistened, were always attended with negative results, even in instances in which the virus had not been kept for more than one day. This result agrees with the experience that laundresses seldom contract the disease in washing the linen of syphilitic subjects. In cases where syphilis is thus contracted, it is probably due to the inoculation of a cut or sore on the hand with moist syphilitic virus.

Inoculation of syphilitic virus, mixed with 100 parts of water, gave positive results; with more than 100 parts of water, the inoculations either failed or the incubation-period was prolonged; with more than 300 parts of water, the results were uncertain; with 500 parts of water, usually, and with 600 parts always, negative. In two instances the authors failed in inoculating with results virus mixed with 25 parts of water, but the subject of those experiments had been treated by syphilization for two months, and therefore was almost quite insusceptible.

ART. 2.—On Morbid Changes in the Sympathetic System in Constitutional Syphilis.

By Dr. PETROW.

(*Virchow's Archiv*, Bd. lxxv. Heft 1, 1873; *Gazette Hebdomadaire*, No. 19, 1873.)

It is well known that no organ and no tissue is exempt from the noxious influence of syphilis. The destructive action of this disease, according to Dr. Petrow, may be revealed in the system of the great sympathetic as well as in the nervous centres. This conclusion is founded on a minute examination of twelve cases of acquired constitutional syphilis.

The author has carefully examined the cervical, thoracic, and solar plexuses ten, twenty, and at the longest twenty-four hours after death. All these fresh specimens were submitted to microscopical examination, after having been treated by glycerine, by diluted tincture of iodine, by chromic acid, according to Schultze's method, by chloride of gold, according to Cohnheim's modification of Gerlach's method, or, finally, by osmic acid.

The pathological changes revealed in these examinations are of two kinds.

In some the general affection is manifested by lesions of nerve-cells (parenchymatous lesions).

In others by lesions of the interstitial tissue (interstitial lesions).

1. *Lesions of the protoplasm of nerve cells.*—In these the tissue interspersed between the primitive fibres and the ganglionic cells is quite healthy. The nerve tubes present no modification; the nerve cells alone are altered.

In cases of recent syphilis, one finds in these latter elements small refracting pigmentary granulations, which may be either disseminated or confluent. The remainder of the protoplasm preserves its finely granular aspect, and one may readily distinguish the nucleus and nucleolus of each nerve-cell.

The number of pigmentary granulations increases with the progress of the disease, and these minute bodies finally fill the whole cell, and almost completely mask the nucleus, which disappears when the process has arrived at its ultimate stage.

Nitric acid or potash renders the pigment clearer, but does not, however, completely dissolve it.

Dr. Petrow seems inclined to admit that in instances of this kind the hematine of the blood has been the origin of the pigment. He remarks that several observers have found in man and in animals pigmentation of nerve-cells, which could not be attributed to any pathological condition, and which occurred most frequently in subjects of advanced age; but in these cases, he adds, the pigment occupies but a small portion of the cell, in the form of isolated granulations, and the nucleus always remains quite visible.

In the just-described lesions of nerve-cells, the endothelium of these elements is occasionally the seat of a cellular proliferation, so abundant that the nerve-cells themselves appear as if surrounded by a thick zone of embryonic elements.

At other times the nerve-cells, and also their endothelium, undergo colloid degeneration. The protoplasm then presents itself in the form of a brilliant homogeneous mass; the cell preserves its form and normal dimensions, but its nucleus disappears or seems to be pushed towards the periphery.

This colloid change might be confounded with the luminous and transparent vacuoles, which are sometimes met with in the normal condition of the tissues, but these resist all reagents, whilst the colloid masses swell up, and are rendered opaque on the addition of acetic acid, and are dissolved by alkalis.

2. *Morbid changes of the interstitial cellular tissue (interstitial lesions).—*These lesions predominated in the specimens examined by Dr. Petrow. Instead of scarcely appreciable fibres, with confused contours, such as may be seen in interstitial tissue, a manifest hyperplasia of this tissue is met with, forming cellular bands, which are disposed in different ways, and which appear to dissociate the cells and nerve tubes.

The cellular elements (endothelium) which surround the nerve-fibres participate in these lesions of the interstitial substance; they become opaque and finely granular. Their contours become effaced, but the nuclei still remain visible. When the morbid change is of long standing, one no longer meets with distinct elements on the internal surface of the envelope of the nerve-cells, but with finely granular masses which are soluble in ether.

The nerve-cells in their turn diminish in volume, and take on an irregularly angular form. The protoplasm becomes charged with more or less pigmented granulations.

The nerve-fibres, which traverse the interstitial tissue in course of proliferation, appear as if stifled by the compression to which they are subjected. Their enveloping membrane is thickened, their contours are well marked, and the myelene sometimes changes into granular detritus.

In order to make out this proliferation of interstitial laminar tissue, Dr. Petrow had recourse to osmic acid, which gives a black color to nerve elements, without modifying the connective substance. He made use of a diluted solution (one part of osmic acid to four or five hundred parts of water), in which he macerated his preparations for six or seven hours.

To resume: syphilis produces marked changes in the great sympathetic. These in some instances affect primarily the nerve-cells which undergo pigmentary or colloid degeneration, in others the interstitial tissue, hyperplasia of which induces granular atrophy of the cells and nervous tissues.

Finally, the endothelium itself, which surrounds the nerve-cells, may also participate in the pathological process. At first one observes an abundant endothelial cellular proliferation, later a retrogressive and granulo-fatty metamorphosis of these elements.

ART. 3.—*On the Diagnosis of Syphilitic Encephalitis.*

By DR. LANCEREAUX.

(Gazette Hebdomadaire, No. 32, 1873.)

The diagnosis of syphilitic encephalitis is difficult on account of the numerous symptomatic forms that may present themselves. Still, the succession and the modality of the symptoms may lead to the discovery of the specific cause. An intense, persistent, and obstinate cephalalgia with nocturnal paroxysms and attacks of vertigo, yielding rapidly to the action of mercury or iodide of potassium, is a sign of great diagnostic value. Insomnia, whether associated or not with the above symptoms, is a sign not less important and not less frequent. Syphilitic paralysis is remarkable from the irregularity of its distribution and its irregular course; the hemiplegia has neither the sudden accession nor the stability of hemiplegia which is symptomatic of hemorrhage or of cerebral softening due to arterial obliteration, except in cases where this obliteration is associated with a syphilitic process. Epileptiform attacks without aura, and convulsive tonic or clonic fits without absolute loss of consciousness, preceded and followed by more or less violent cephalalgia, constitute the symptomatic indications which lead to a suspicion of syphilis.

But it is important not to restrict one's self to the examination of a single system; every organ should be carefully examined, and so taking aid of associated phenomena and regarding concomitant cutaneous, osseous, or visceral affections, and the cachectic condition which is seldom absent, the physician will in most cases be able to recognize, with the seat and extent of the lesion, the source from which it is derived. For instance, a certain amount of deformity of the liver, coinciding with slight albuminuria, may have a great diagnostic importance. Finally, in the case where the totality of symptoms goes to constitute one of the syndromata, known under the name of epilepsy, of hemiplegia with or without aphasia, or even of general paralysis, the age of the patient, and the circumstance that the pathological disorder was subsequent to the appearance of syphilis, will serve as valuable indications. It should also be remembered that tertiary encephalitis always remains localized to a part of the brain.

The cerebral disturbances engendered by abuse of spirituous drinks can be readily differentiated from those which appertain to syphilis. In alcoholism the patient is tormented by dreams, illusions, and even hallucinations; sensibility is always disturbed, but consciousness remains unaffected. The paralytic symptoms, produced by the action of lead, are distinguished by their special localization to the extensor muscles of the limbs. General progressive paralysis, as described by French authors, is never, as some suppose, an effect of syphilis, the character of which, in its advanced phase, is to proceed invariably by single or multiple lesions which are limited, always partial and not very extensive. Indeed, the symptomatic disorders of cerebral syphilis may present a great resemblance to those of general paralysis; but if they be regarded more closely it will be found that this resemblance is but apparent, and that it is due to the localization of the morbid change to a special centre of motility or the intellectual faculties, and not to the lesion of the whole periphery of the encephalon. In short, there exists between syphilitic encephalitis and the encephalitis of general paralysis the difference which has been established between the cirrhosis of syphilis and the cirrhosis of alcoholism, one being general whilst the other is always partial: the affections may be thus differentiated. Intense cephalalgia at the commencement, blepharoptosis, strabismus, apoplectiform attacks, followed by hemiplegia and various disturbances of motility having, as a special character, a rapid or instantaneous disappearance; such are the principal symptoms which may lead one to recognize the syphilitic paralyzes which most resemble the progressive paralysis of the insane.

Tuberculous or sarcomatous tumours of the encephalon, when situated in the brain or on the surface of the meninges, may give rise to disturbances which

cannot always be readily distinguished from those due to syphilitic growths. By taking into account, however, the age of the patient, his morbid antecedents, and the mode of evolution of the affection, one will, in most instances, be led to suspect, if not to diagnose surely, the nature of each of these diseased conditions. Tubercle is indeed an almost exclusive appanage of youth, and the brain is one of its principal places of election. Sarcoma, on the contrary, occurs in more advanced age. It is characterized by the slowness of its development and by a progressive increase, whilst the syphilitic neoplasm is most frequently arrested at a given moment of its evolution. Cerebral hemorrhage and ischemic softening are distinguished by a persistent and tenacious hemiplegia, which is but little susceptible of amelioration. The diagnosis of syphilitic localization necessarily depends on a study of symptoms. There is no special difference in the symptoms whether the hemispheres, the cerebellum, or the pons be affected; but it is important to know that epileptiform fits denote a lesion of the meninges, or of the periphery of the encephalon.

Syphilis, when localized in the encephalon, is to be regarded as a serious affection, not only on account of the importance of the disturbed functions, but also by reason of the frequency of relapse. One often sees an amelioration, or even a rapid recovery, followed by an affection more intense than the former, and more difficult to deal with. From some statistics collected by Dr. Gjør, we learn that of 30 patients, 5 were cured, 12 were relieved, 6 obtained no relief, and 7 died. Of 147 cases collected by the younger Lagneau, there were 83 that terminated more or less unfavorably, and 57 were fatal, that is to say, about two-fifths of all the cases. In 7 instances death resulted from an incident malady.

The examination of cases, in accord with physiological data, indicates that the most severe lesions are such as involve the parts most essential to life. Osseous and meningeal lesions, and such as occupy but the periphery and the convexity of the encephalon, are much less severe than those which attack the more deeply-seated parts and the base. With regard to the symptoms, it may be stated that cephalalgia and insomnia have no very serious import. Vertigo and convulsive attacks do not permit one always to decide with certainty as to the issue of the malady; but they are less formidable than paralytic symptoms and disturbances of the intellectual faculties (idiocy, hebetude, torpor, somnolency), which, of all the syphilitic disorders of the encephalon, are certainly the most grave. These symptoms become the more serious the longer they last, because there is then a probability of more or less considerable destruction of the nerve elements. This destruction has almost certainly taken place when permanent contraction is associated with paralysis. Whatever may be their nature, the syphilitic localizations of the encephalon are less formidable, even in the absence of specific treatment, than any other like affections of a different organ; it is especially when they are recognized and treated at an early stage that these manifestations may be advantageously dealt with.

The treatment of these affections consists in the employment of iodide of potassium, in doses of from one to three or four grammes in the course of the twenty-four hours. It is found advantageous to associate mercury with the iodide; calomel in small doses will often produce the best results.

ART. 4.—*Experimental Researches in Cerebral Physiology and Pathology.*

BY DAVID FERRIER, M.D.

(*British Medical Journal*, April 26.)

Dr. David Ferrier gives the following as the more important conclusions which he has arrived at from many extremely interesting and important experiments made by him on different animals in the laboratory of the West Riding Asylum, Wakefield. The details of method, experiments, and illustrations will be hereafter given in the reports of the above-mentioned institution.

1. The anterior portions of the cerebral hemisphere are the chief centres of voluntary motion and the active outward manifestation of intelligence.

2. The individual convolutions are separate and distinct centres: and in certain definite groups of convolutions (to some extent indicated by the researches of Fritsch and Hitzig), and in corresponding regions of non-convoluted brains, are localized the centres for the various movements of the eyelids, the face, the mouth, the ear, the neck, the hand, foot, and tail. Striking differences corresponding with the habits of the animal are to be found in the differentiation of the centres. Thus the centres for the tail in dogs, the paw in cats, and the lips and mouth in rabbits, are highly differentiated and pronounced.

3. The action of the hemispheres is in general crossed; but certain movements of the mouth, tongue, and neck are bilaterally co-ordinated from each cerebral hemisphere.

4. The proximate causes of the different epilepsies are, as Dr. Hughlings Jackson supposes, "discharging lesions" of the different centres in the cerebral hemispheres. The affection may be limited artificially to one muscle or group of muscles, or may be made to involve all the muscles represented in the cerebral hemispheres, with foaming at the mouth, biting of the tongue, and loss of consciousness. When induced artificially in animals the affection as a rule first invades the muscles most in voluntary use, in striking harmony with the clinical observations of Dr. Hughlings Jackson.

5. Chorea is of the same nature as epilepsy, dependent on momentary discharging lesions of the individual cerebral centres. In this respect, Dr. Hughlings Jackson's views are again experimentally confirmed.

6. The corpora striata have crossed action, and are centres for the muscles of the opposite side of the body. Powerful irritation of one causes rigid pleurosthotonos, the flexors predominating over the extensors.

7. The optic thalamus, fornix, hippocampus major, and the convolutions grouped around it, have no motor signification.

8. The optic lobes, or corpora quadrigemina, besides being concerned with vision and the movements of the iris, are centres for the extensor muscles of the head, trunk, and legs. Irritation of these centres causes rigid opisthotonos.

9. The cerebellum is the co-ordinating centre for the muscles of the eyeball. Each separate lobule (in rabbits) is a distinct centre for special alterations of the optic axes.

10. On the integrity of these centres depends the maintenance of the equilibrium of the body.

11. Nystagmus, or oscillation of the eyeballs, is an epileptiform affection of the cerebellar oculo-motorial centres.

12. These results explain many hitherto obscure symptoms of cerebral disease, and enable us to localize with greater certainty many forms of cerebral lesion.

ART. 5.—*Prophylaxis of Asiatic Cholera.*¹

By HENRY MACCORMAC, M.D., Consulting Physician to the General Hospital, Belfast.

(*British Medical Journal*, August 23.)

Within certain limits, Dr. McCormac considers Asiatic cholera a highly communicable malady; and he has no hesitation in proclaiming, speaking of his own conclusions, that every case without exception, occurring in Europe, is, was, and will be the result of infection. No disease, the author believes, more strikingly attests the exceeding efficacy of early treatment than does Asiatic cholera. The evidence afforded in Glasgow, to mention no other locality, is quite conclusive on this point. Persons went daily, if not twice daily, from house to house, and wherever they found any one laboring under premonitory diarrhoea, as it was termed, they instantly administered a dose of cholera mixture, and left other doses to be used in case of any return of the diarrhoea.

¹ Read before the Public Medicine Section at the annual Meeting of the British Medical Association in London, August, 1873.

The result was, that in every 1400 cases of diarrhœa thus met, there was but one death; whereas, if it had been left alone, the half of those attacked probably would have perished. It would be difficult, Dr. MacCormac thinks, to adduce any stronger evidence of the remedial measures zealously, timely, and effectively administered than this. Nevertheless, numbers died in Glasgow; and the ravages of cholera, since its first introduction into Europe, have been very great indeed.

Under these circumstances, it occurred to Dr. MacCormac that it would be excessively desirable, so far as it was possible, to anticipate even the premonitory diarrhœa. For, if only we can succeed in averting the disease, were it in its mildest form, we also avert the dangers and the mortality, which more or less attend the developed malady. In 1854-5, some repairs going on, and a communication having been opened with the infected town, forty of the inmates of the District Asylum for the Insane, to which the author was visiting physician, were assailed with Asiatic cholera, and seventeen almost immediately perished. He instantly caused to be prepared a large admixture of what might be termed sulphuric acid lemonade, in the proportion of half a drachm of the dilute acid to each dose, and zealously aided by the resident physician and Dr. MacCormac's son, had this administered daily to every one of the four hundred inmates of the establishment. The twenty-three residuary cases of the forty who were attacked remained, of course, under treatment, and made good recoveries; but not a single other fresh case ensued, and the malady then and there, in fact, disappeared. In the event of the apprehended invasion of Asiatic cholera, and *à fortiori*, when it had actually occurred, Dr. MacCormac would urge the administration, once or twice daily, to every adult member of the community, of half-drachm doses of dilute sulphuric acid, as the most generally available, in any convenient vehicle. Drinking water, previously filtered, should invariably be raised to the boiling-point; and, while hot, flavored with a pinch of tea or coffee, a chip of cinnamon, quassia, gentian, dried orange-peel (any of them), or else a small fragment of highly toasted bread. In China and Japan, the water, before drinking, is almost invariably cooked and flavored with a little tea. Much of the immunity enjoyed by the people of these countries from the ravages of Asiatic cholera is ascribed to the prevalence of this most beneficial practice. To children, half or less of the above amount might be given. Of course, *il va sans dire*, that every reasonable sanitary precaution, such as burnt earth-closets, and cooked drinking water, should in addition be taken.

ART. 6.—*Opium and the Actual Cautery in the Treatment of Cholera.*

By C. E. BROWN-SÉQUARD, M.D.

(*Boston Medical and Surgical Journal, and Medical Press and Circular,*
Oct. 22.)

"I have had considerable experience in the treatment of epidemic or Asiatic cholera. In 1849, in Paris, the number of army physicians being insufficient, some civilians, among whom I was, were called to take charge of the soldiers attacked with cholera, at the Gros-Caillou Hospital. In the Mauritius, at Port Louis, in 1854, I had charge of a hospital—besides a very large private practice—during one of the most murderous epidemics of cholera that have existed outside of India. Nearly 6000 people, out of a population of about 45,000, died in five weeks. Of all the means of treatment I have employed (and my trials have been very numerous) none has given by far as favorable results as the use of opium in extremely large doses. I will only mention what occurred at a convent, which seems to have been one of the great *foci* of the disease in the Port Louis epidemic. No death was observed there, although a large number of Sisters of Charity and of young girls (the convent was a boarding-school) were attacked with either the premonitory symptoms or the confirmed and cyanotic cholera. Thirteen of those patients were seized with the most serious symptoms, and all, however, recovered, many of them, if not all, evidently owing to the treatment. For reasons mentioned hereafter, a great

many of my hospital and private patients died, notwithstanding my having used opium in their case as I did at the convent. But here was the difference, and in this lies the important point as regards the use of opium against cholera: in the convent the rules given were strictly followed; they were not elsewhere.

"They were, first, to give opium every twenty minutes, and in large doses, so long as the cholera symptoms existed, without fearing poisoning; secondly, to begin the treatment as early as possible. The Sisters of Charity acted just as I desired, and saved, as I have said, all their patients. The fear of poisoning, and many other reasons, prevented the proper application of the rules elsewhere. The preparation almost always employed was laudanum. If there was no great vomiting, or if the vomiting was checked by Rivière's potion (a carbonate and tartaric acid, taken separately one immediately after the other, disengaging carbonic acid inside of the stomach), the laudanum was given by the mouth. If the vomiting was frequent, the laudanum was injected into the bowels, but with the precaution of having a thorough washing of the large intestine by a previous enema to bring out all the contents of that tube, so that the laudanum was rarely rejected. In bad cases a dose of twenty minims of strong laudanum (Sydenham's) was used every fifteen or twenty minutes until the cholera symptoms had ceased, or (*which never occurred when cholera still showed its existence*) until some slight symptoms of opium-poisoning appeared.

"I hardly need to say that this mode of treatment does not succeed when the blood has been considerably altered by the loss of a very large amount of its salts.

"Of course these rules are not to be followed in cases of mere cholérine, or in the premonitory stages of cholera; but even then opium in much smaller doses is also the best means.

"Now that we possess a much better means of obtaining rapid absorption of the principal curative element of opium—morphine—in subcutaneous injections, it is clear that it is that substance which ought to be used, and in that way. I may add that many physicians have already proposed and used subcutaneous injections of morphine against cholera.

"Against the lack of urinary secretion in cholera, I have employed with benefit, in some cases, the actual cautery on the loins."

ART. 7.—*Treatment of Cholera.*

By ALEXANDER SMITH, M.D., Staff Surgeon-Major; Statistical Officer to the Inspector-General of Hospitals, British Forces in India.

(*"Fever and Cholera from a Near Point of View,"* pp. 301, Calcutta, 1873.)

Dr. Smith regards the difference between cholera and simple continued fever as one only of degree, and recommends the exhibition of quinia, which should be given hypodermically whenever the stomach is too irritable to retain it.

ART. 8.—*The Absence of Purging in Cholera.*

By WILLIAM SEDGWICK, M.R.C.S.

(*British Medical Journal*, August 30.)

The author directed attention to the fact that, in cases of cholera, purging was apt to cease when collapse became intense, owing to inability of the bowels to expel their contents. This cessation of purging was followed by abdominal distension from the accumulation of the rice-water flux; and the attempts to restore the action of the bowels by purgative drugs had signally failed. The assumed elimination, by means of purgatives, of an assumed poison in cholera, was undoubtedly based on a misapprehension of the pathology of a flux; and the practical conclusions to be drawn from the evidence adduced were that, in a fully established case of cholera, the cathartic method of treatment would tend (1), to deepen the collapse, (2), to increase the flux, and (3), to weaken the expelling power of the alimentary canal.

ART. 9.—*Treatment of Cholera.*

By **GEORGE R. PLAYFAIR, M.D.**, late Deputy Inspector-General of Hospitals, Bengal Medical Service.

In a letter addressed to the editor of the *Edinburgh Medical Journal*, Nov. 1873, Dr. Playfair says, during a residence of more than thirty years in East India, he had frequent opportunities of treating Asiatic cholera. Should it become epidemic in Great Britain, he offers for publication a circular (sub-joined) which for many years during the latter part of his Indian service he was in the habit of distributing to his patients, also to the many medical officers in his circle of superintendence.

WHEN CHOLERA IS EPIDEMIC.

Avoid eating any green vegetables or much fruit. Never use strong purgatives, especially those which are called saline, such as Epsom salts.

Cholera is curable in its early stage, but this stage is frequently not noticed, owing to ignorance of the symptoms. These are: 1. Disinclination for food. 2. Sense of depression and fatigue. 3. Feeling of relaxation, sometimes pains and cramps in the bowels. 4. One loose motion (perhaps only one), followed by others, each more loose than the preceding. 5. Nausea at stomach. 6. Vomiting first of contents of stomach, afterwards of a colorless watery fluid. The pulse quite distinct. Any two or three of these symptoms, when cholera is committing its ravages in a district or city, should be looked on with suspicion, and the remedy taken. Symptoms 2, 3, and 5 are difficult to perceive in children; in them, a contracted appearance of the features, and darkness under the eyes, in addition to the purging and vomiting, ought to give suspicion of cholera.

REMEDIES.

EXTERNAL.—As early as possible, a very large mustard poultice, having mixed with it a heaped teaspoonful of cayenne pepper, to be placed across the small of the back, so as to be over each kidney, and to be kept on at least one hour for an adult male.*

INTERNAL.—1. *For an adult accustomed to take several glasses of wine or beer daily:* Rum or brandy, two wineglassfuls. Cayenne pepper, four grains (two pinches). Laudanum, forty drops.

2. *For an adult unaccustomed to any stimulants (male or female):* Rum or brandy, one wineglassful. Cayenne pepper, two grains (one pinch). Laudanum, twenty drops.

3. *At fourteen years of age:* Rum or brandy, half a wineglassful. Cayenne pepper, one grain. Laudanum, twelve drops.

4. *At six to eight years:* Rum or brandy, one dessertspoonful. Cayenne pepper, half a grain. Laudanum, six drops.

5. *At two to five years:* Brandy, one teaspoonful. Peppermint oil, one or two drops. Laudanum, three drops.

The above doses to be mixed with a wineglassful to a tumblerful of as hot water as can be swallowed, and the whole to be taken at once.† It is essential that the patient keep quiet in bed and in a darkened room. In hospitals, and other places where many are living together, it will be convenient to have a bottle or bottles ready of cholera mixture, to be made thus:—

Brandy or strong rum	1 bottle.	} Mix.
Laudanum	320 drops.	
Cayenne pepper powder	32 grains.	
Dose for an adult, 2 wineglassfuls (if accustomed to stimulants).		} To be given mixed with hot water, as above.†
Or ditto, 1 ditto.		
14 years, ½ ditto.		
6 to 8 ditto, 1 dessertspoonful		
2 to 5 ditto, 1 teaspoonful.		

Also, under such circumstances, instead of mustard and cayenne pepper, use two parts of coarsely ground flour or oatmeal, and one part of cayenne pepper made into a poultice, to be used as above * It is further advisable that persons in the early stage of cholera should not be treated in the same room with those in whom the disease has advanced to the stage of collapse—in which the pulse is almost imperceptible. *If the first dose is rejected, give a second.*

When there is no pulse perceptible, or it is very weak, the above mixture must never be given. The treatment should be:—

1. Mustard and cayenne pepper poultice. 2. Saturated solution of camphor in spirits of wine. Dose—One to three drops in water every quarter of an hour. 3. Hot water enemas (large tumblerful, as hot as can be borne), having dissolved in them half an ounce of common salt and thirty grains of carbonate of soda, to be injected every half-hour, and retained as long as possible. These are useful in restoring warmth, and the pulse, in cases of extreme collapse. 4. As soon as the pulse begins to be felt and the urine to be secreted, give at short intervals small quantities of light easily-digested food.

N. B.—In every case send at once for a doctor.

ART. 10.—On the Contagious Properties of Choleraic Dejections.

By Dr. POPOFF.

(*Berliner klinische Wochenschrift*, No. 33, 1872; *Archives Générales de Médecine*, Mai, 1873.)

This author's investigations are the more interesting as several observers have denied the contagious properties of choleraic stools, and others in admitting these properties have identified them with the infection produced by putrid substances.

In order to decide the question, the author sought for clinical and pathological signs which might permit him to distinguish in animals putrid from choleraic infection. The lesions of the lymphatic glands of the intestine, which will be afterwards described, seem to him to be characteristic.

The experiments were made on a series of dogs, some being acted upon by an infusion of putrid meat, and of meat mixed with fermentescible substances, and others with choleraic products, such as the vomited material, excrement, urine, etc. These different products were introduced into the organism either directly by the vascular system, or indirectly through the digestive passages.

The author observed characteristic differences in the results of these two series of experiments.

In instances of putrid infection, the symptoms of poisoning are rapid, and show themselves as soon as the poison has passed into the blood, and they attain their maximum in the course of a few hours; in choleraic poisoning, on the other hand, the first symptoms hardly commence before the end of the first day, and are often deferred for several days. In the former case, the stools are abundant from the first; they have generally a brownish tinge, and are mixed with blood; in choleraic infection the evacuations do not occur at so early a period; they present a slight yellow or greenish tinge; they are sometimes very copious, and may persist for several days. Vomiting occurs much more frequently in putrid infection than in choleraic infection. The temperature attains its maximum at the end of a few hours in putrid infection, and in cases of recovery returns to its normal point at the end of the second or third day; in cases where the poisoning has been very intense, the temperature sinks at the end of a few hours, and death soon takes place. In cholera, the temperature is gradually elevated, and does not attain its maximum for some days; the maximum is preserved for days, and falls just before death. The author has never observed cramps in cases of putrid infection; this infection, on the other hand, is very frequent, often even violent, and very persistent in cases of choleraic infection. The pulse is generally accelerated in putrid infection, whilst in cholera it is much diminished (36 pulsations in the minute).

The anatomical lesions present characters as distinct as the clinical symp-

toms in putrid infection; one observes all the characters of hemorrhagic gastro-enteritis without special disorders of the lymphatic ganglionic system; in choleraic infection, on the other hand, these disorders are characteristic, and the solitary follicles everywhere present very marked lesions. In putrid infection, the liver usually presents signs of parenchymatous inflammation, passing to the condition of fatty degeneration; in cholera this inflammation is very slight, and is characterized principally by blood stasis. In cholera one may almost always observe parenchymatous inflammation of the kidneys (fatty degeneration); the right ventricle of the heart is gorged with blood, the left ventricle being empty.

The author gives the following conclusions:—

1. Choleraic dejections (vomited material, excrement, urine) are contagious as soon as they have penetrated into the organism.
2. The more recent the dejections the more contagious are they.
3. When the choleraic dejections have undergone decomposition, then injection gives rise to symptoms resembling those of putrid infection.
4. Infection may take place after the direct passage of the poison into the blood, that is to say, independently of the tissues.
5. The action of choleraic poison introduced into the organism of an animal is deferred for an interval, varying from one to three or even more days.

ART. 11.—*Tubercular Fever and its Relation to Enteric Fever.*

By JOHN HARLEY, M.D.

(*St. Thomas's Hospital Reports*, vol. iii. 1873.)

Dr. Harley uses the term "tubercular fever" instead of acute tuberculosis, because he considers the latter term to imply a more chronic and less febrile condition than is exemplified in his cases.

The object of the paper is to prove not only that tubercle may form an actual component of enteric fever, but that fully developed enteric fever may be solely caused by the simultaneous eruption of miliary tubercle in the intestinal glands and in the lungs. Dr. Harley denies that a specific poison is the cause of enteric fever, because he has never seen it, and that the inflammatory product is a *specific* deposit, because were it, we would then have two kinds of specific exudation deposited simultaneously, the one in the intestinal glands, the other in the lungs or any other part; which he thinks is absurd.

Dr. Harley believes that enteric fever "may arise in any simple inflammatory condition of the body (particularly pneumonia) as soon as the inflammatory action involves the glands of the ileum or colon;" that "when the ileal glands alone are affected, the distinction between tubercular and enteric fevers is absolutely *nil*."

Dr. Harley appears to consider that tuberculous disease of the intestine may manifest itself as enteric fever. Although the diagnosis at the bedside of these two diseases is sometimes obscure, yet the pathological evidence of their difference is marked. Moreover a careful observation of the temperature serves to throw light on the diagnosis. In enteric fever the temperature is high by the end of the first week, and keeps high for an indefinite time; when it begins to decline, its diminution is regular; whereas in acute phthisis the temperature is subject to great and sudden variations, even to the extent of six or seven degrees, and bears no regular relation with the respiration or pulse.

Dr. Harley has not considered it necessary to argue the correctness of his views, and we doubt if the present paper will make any converts to his peculiar doctrines.

ART. 12.—*On the Treatment of Typhoid Fever by Internal Disinfection.*

By STEPHEN SKINNER, M.B.

(*The Practitioner*, September.)

Mr. Stephen Skinner contributes a short paper on the treatment of enteric fever by the use of sulphocarbolate of sodium. He administers the drug in

twenty-grain doses, every fourth hour, and gradually increases the quantity during the next few days to thirty grains. He appends twenty cases in which this mode of treatment was carried out, one case only terminating fatally. He believes that, in cases in which the drug was administered during the period of incubation, the disease either ran more quickly, or it did not become developed. The opinion which he entertains regarding the effect of the remedy is, however, he admits, only conjectural; but he advocates a further trial of the salt to settle its real use or uselessness.

ART. 13.—*The Statistics of Rheumatism.*

By THOMAS B. PEACOCK, M.D., F.R.C.P., Senior Physician to St. Thomas's Hospital.

Dr. Peacock, in the annual report of St. Thomas's Hospital, gives the following as conclusions arrived at from a careful study of eighty-seven cases of acute rheumatism:—

- a. The acute forms of rheumatic fever are most common in early life. The chronic forms are almost peculiar to old age.
- b. The disease is more common in men than in women, in consequence of their greater exposure to cold and wet.
- c. One attack of acute rheumatism predisposes to another.
- d. As many as nine attacks were found to have occurred in one patient.
- e. In the majority of cases the disease runs a mild course.
- f. In none of the cases reported did the temperature rise above 104° Fahr.; and in only a few did it reach 103° Fahr. The highest temperature was usually found on the day after admission.
- g. Very little joint-mischief is sufficient to cause a rise in the temperature.
- h. The greatest risk in the course of the disease arises from cardiac complication. Over 33 per cent. of the whole cases showed more or less signs of it, and in most instances the heart was found affected at the period of admission.
- i. Cardiac complications are most common in early life, and are more frequent in the male than in the female.
- j. The cardiac mischief is not directly proportional to the severity of the fever. In a mild case the heart may become affected, while in a severe case it may remain entirely unaffected.
- k. Pericarditis is most common in the slight, endocarditis in the severe attacks. The former complication is more amenable to treatment than the latter.
- l. Cardiac complication, although the most formidable, is not the only one to be feared in the course of acute rheumatism. Inflammation of the lungs and pleura are not unfrequent.
- m. The treatment consists, in *acute* cases, chiefly of the bicarbonate of potash, with or without some nitrate. In the subacute, iodide of potassium and small doses of colchicum were administered. When the pain was severe, opium or Dover's powder was given at bedtime, and mercurial purges when the tongue was foul.
- n. Heart-complications were combated by blisters and poultices.
- o. Convalescence was aided by quinine and iron.

ART. 14.—*Treatment of Cerebro-Spinal Fever.*

By J. LEWIS SMITH, M.D., Consulting Physician to New York Infant Asylum, etc.

(*American Journal of the Medical Sciences*, October, 1873.)

At the termination of an exhaustive paper on cerebro-spinal fever, Dr. Smith, in speaking of the treatment, says: "Although we do not fully understand the conditions in which cerebro-spinal fever originates, it is certain, from facts observed in epidemics, that we are able to do something to diminish its severity

and prevalence, and to protect the community. Measures to this end must be of a twofold character—namely, such, in the first place, as are calculated to improve the surroundings of the individual, so as to conduce to a better state of health; and, secondly, the regulation of his mode of life. Cleanliness and dryness of streets and domiciles, perfect drainage and sewerage, prompt removal of all refuse matter, avoidance of overcrowding, so as to procure the utmost salubrity in the atmosphere, the use of plain and wholesome food—in a word, the strict observance of sanitary requirements in all the surroundings—cannot fail to reduce the number and diminish the severity of cases; for this disease assumes its worst form and numbers the most victims where anti-hygienic conditions most abound. Of scarcely less importance is a strict surveillance of the mode of life, especially of children and young people, during the time of an epidemic. We have seen that this disease not unfrequently follows irregularities in the mode of life, excesses of whatever kind, and fatigue, mental or bodily. These should therefore be avoided. A quiet mode of life and moderate exercise, plain and wholesome and regular meals, and the full amount of sleep afford some, but not complete, security in the midst of an epidemic.

“*Curative.*—It will aid in determining the proper mode of treatment to bear in mind the anatomical characters as ascertained by post-mortem examinations. As the chief danger in the first days is from the intense inflammatory congestion of the cerebro-spinal axis, the prompt employment of measures calculated to relieve this is of the utmost importance. To this end bladders or bags of ice should be immediately applied over the head and nucha, and constantly retained there during the first week. Bran mixed with pounded ice produces a more uniform coldness, and is more comfortable to the patient, than ice alone. Cold produces a prompt and powerful effect in diminishing the turgescence of the cerebral and meningeal vessels. A hot mustard foot-bath or general warm bath with mustard, should also be employed as early as possible, since it acts so powerfully as a derivative from the hyperæmic nerve centres, tends to calm the nervous excitement and prevent convulsions. An enema to open the bowels is also proper.

“Should bloodletting be employed, especially in the more sthenic cases? Even in the commencement of the present century, when it was customary to bleed generally or locally in the treatment of inflammatory and febrile diseases, a majority of the American practitioners whose writings are extant discountenanced the use of such measures in the treatment of this disease. Drs. Strong, Foot, and Miner, though under the influence of the Broussaiian doctrine, were good observers, and they soon abandoned the use of the lancet and leeches in the treatment of these patients for more sustaining measures. Strong, who published a paper on spotted fever in the *Medical and Philosophical Register*, in 1811, states that certain physicians employed venesection as a means of relieving the internal congestions, but finding that the pulse became more frequent after a moderate loss of blood, they soon laid aside the lancet. Some experienced physicians of that period, however, continued to recommend and practise depletion, general as well as local, as, for example, Dr. Gallop, who treated many cases in Vermont in the epidemic of 1811.

“No physician at the present time recommends venesection, but some of the best authorities, as Sanderson and Niemeyer, approve of local bleeding in certain cases. It may be stated as a safe rule that leeches or other modes of local depletion should not be prescribed in a large majority of cases, and if prescribed in any case it should be on the first day, for on the first day the maximum of inflammatory congestion is attained, and in no case should more than a very moderate quantity of blood be abstracted. Blood should only, in my opinion, be abstracted, and in small quantity, from the temples or behind the ears, in the more sthenic cases, in which, after the prompt employment of the other measures recommended, the stupor becomes more and more profound, and the patient appears already in incipient coma. But in allowing a moderate depletion it must not be forgotten that the disease is in its nature asthenic, and in its subsequent course will require sustaining measures. It is apparent, however, that the abstraction of blood if once allowed is likely to be recommended too frequently in the treatment of this disease by those who have had but little

experience with it, for the state of most patients in the commencement seems so critical, and the stupor so great, that the most energetic measures seem to be required. But if the blood of patients is spared, and they are promptly and properly treated otherwise, it is surprising to see how many emerge from the stupor and finally recover. For example, in a case related to me by Dr. Griswold, the patient seemed to be comatose for three days, being apparently unconscious and the pupils scarcely responding to light, but he recovered without losing blood. In only one case have I recommended the abstraction of blood, and this was so instructive that I will briefly relate it:—

“M., a female, four years old, was seized at 2 A. M. March 7th, 1873, with vomiting, chilliness, and trembling, followed by severe general clonic convulsions lasting about fifteen minutes. On visiting her early in the morning, I found her semi-comatose, with a pulse of 132, which in a few hours rose to 156; temperature $101\frac{1}{2}^{\circ}$, respiration 44; eyes closed; pupils moderately dilated and responding feebly to light; surface presenting a dusky mottling; constant tremulousness, and frequent twitching of limbs. Four grains of bromide of potassium were ordered to be given every hour to two hours, with the usual local measures—namely, ice to the head and nucha, and a hot mustard foot-bath, followed by sinapisms to the extremities.

“8th. Pulse 136; is partly conscious when aroused, but immediately relapses into sleep; head considerably retracted; bowels constipated; vomits occasionally; temperature 102° . Treatment, a leech to each temple, on account of the extreme stupor; other treatment to be continued.

“9th. The leech-bites bled, though slowly, nearly five hours; pulse 180, and so feeble as to be counted with difficulty; temperature $101\frac{1}{2}^{\circ}$. The patient is evidently sinking. Treatment, a teaspoonful of Bourbon whiskey in milk every two hours, beef-tea and other nutritious drinks frequently, also the bromide at intervals. Evening, pulse 172, still feeble.

“10th. Pulse 180, barely perceptible; great hyperæsthesia; temperature of axilla 100° , of fingers and hand below 90° ; axes of eyes directed downwards.

“11th. Pulse still very feeble, varying from 160 to 228; temperature $102\frac{1}{2}^{\circ}$. There has been no intermission in the use of the stimulants or nutritive night or day; pupils moderately dilated and somewhat more sensitive to light.

“After this the patient gradually rallied for a time, so that the pulse became stronger and less frequent, but death finally occurred after nine weeks in a state of emaciation and extreme exhaustion. Slight convulsions occurred in the last hours.

“It is seen that after the loss of blood from two leech bites, this patient passed into a state of extreme exhaustion so that for three days I did not believe that she would live from one hour to another, and death finally occurred. Although the loss of blood may have been useful in relieving the stupor, yet a worse danger resulted. Experience like this, which I believe corresponds with that of other observers, shows how seldom and with what caution the blood of the patient should be abstracted.

“The internal remedy most in favor with the profession of this city, and justly, in the first stage of this disease, is the bromide of potassium, especially in the treatment of children. Evidently a remedy is required which will diminish the calibre of the arterioles, and consequently the hyperæmia of the cerebro-spinal axis and its meningeal covering. Ergot has been employed for this purpose, and in some instances with a satisfactory result; but bromide of potassium, while it contracts the arterioles of the encephalon, is at the same time a powerful sedative to the nervous system. More than any other safe internal remedy, it prevents convulsions in children, which, occurring in this disease, add a passive to the already intense active congestion of the cerebro-spinal axis. This agent in medicinal doses produces no ill effect, except when given frequently for a lengthened period, when it may accumulate in the system. A child of five years may take five or six grains every two, three, or four hours, according to the urgency of the case. After the first week it should be given less frequently, and finally omitted. The practice of some physicians, of continuing the use of the bromide in frequent large doses after the first or at least second week, is to be deprecated, for after a time it is apt to produce symptoms which can with

difficulty be discriminated from those of cerebro-spinal fever. These are stated as follows by Mr. Wood: 'Great muscular debility, dimness of sight with dilated pupils, irregular gait, the patient reeling as though intoxicated, whilst nausea, vomiting, or purgation, with abdominal pain of a dull aching character, may also be present.' (*British Medical Journal*, Oct. 14th, 1872.) It is obviously better after the first week, if the symptoms are no longer urgent, to discontinue the bromide entirely than to continue its use in such doses and for such a period that there may be danger of producing its physiological effects. Nevertheless, it is proper to resume its use during periods of recrudescence, which are so apt to occur at any stage of the disease.

"The bromide cannot be depended on to allay the pain which often, on account of its severity, requires immediate treatment, and sometimes it does not allay the excessive agitation. For these symptoms an opiate is indicated, which in my practice has produced a much more satisfactory result than hydrate of chloral. Quite moderate doses are sufficient to produce the effect desired. A patient of six years was quieted by $\frac{1}{2}$ part of a grain of sulphate of morphia. So useful are opiates in allaying pain in this disease, that some observers, as Niemeyer and Ziemssen, consider them the most valuable of the internal remedial agents which we possess, and the benefit from their use in these cases has certainly had considerable effect in disabusing the minds of physicians of the dread which they have entertained of their employment in acute affections of the brain. Mankoff and others have employed subcutaneous injections of morphia.

"Quinia is suggested as a remedy by the paroxysmal character of the pains and the fever, but I believe that I am sustained by the general experience of physicians in this city in stating that it has very little effect upon either of these symptoms, or upon the course of the disease. I have employed it in small and large doses, as many as fifteen grains per day to a child of thirteen years, but am not aware that it has been of any service except as a tonic. There is perhaps no better remedy for the nausea than bismuth in large doses.

"Frequent counter-irritation along the spine by dry cups or an irritating liniment is useful from the first, and vesication of the nucha by cantharidal collodion or otherwise when the ice-bag is discontinued. Sustaining measures should also be commenced early. Tonics, vegetable and ferruginous, should be administered after the disease has continued a few days, alternating with and finally superseding the bromide. I have in some cases employed the citrate of iron and ammonia. The diet must be nutritious, consisting of the meat broths, milk, etc., during the entire course of the disease. Most patients require alcoholic stimulants sooner or later. In cases presenting a feeble pulse and other evidences of prostration, their early and continued employment is advisable, as in the case which I have related, in which whiskey was administered every two hours after the second day. The constipation is ordinarily best relieved by enemata. The room should be dark, of comfortable temperature, and quiet."

ART. 15.—On a Case of Local Softening of the Brain from Thrombosis of Syphilitic Arteries.

By J. HUGHLINGS JACKSON, M.D.

(*British Medical Journal*, August 30.)

A gentleman, aged thirty-eight, in apparently good health, was first seen in July, 1867, for recent (July 14th) paralysis of the parts supplied by the left portio dura nerve, and for recent partial deafness of the left ear. There were also remains of paralysis of the right leg, which had begun in April. He rapidly got rid of all his nervous symptoms after taking iodide of potassium; but he did not continue the drug, because he believed all his ailments to be owing to ague-poison. He had been in the West Indies, and still remained subject to slight shivering attacks. He had had primary syphilis fifteen years before. He remained well until March 2, 1868, when he became hemiplegic of the left side. He would not take any drugs except aperients. Nevertheless, in about a week

he was apparently well again; but on March 21 he was found apoplectic and again hemiplegic—this time of the right side. He died next day. At the necropsy, there were found diffiuent softening of part of the right corpus striatum, and also softening of the left corpus striatum. There was syphilitic disease of each middle cerebral artery. Thrombosis of each at the part diseased accounted for the two local softenings, and for the two attacks of hemiplegia related to them. The random succession of symptoms in this case was very characteristic of syphilis. Dr. Hughlings Jackson said that the case showed one of the several very indirect ways in which syphilis caused nervous symptoms. The hemiplegia in such a case was dependent directly on softening of the corpus striatum, produced by thrombosis of a syphilitic artery. The "syphilitic hemiplegia" here illustrated was but one of three kinds producible by syphilis. Again, the case showed that recovery would occur from hemiplegia, notwithstanding that the damage which caused the hemiplegia was not altogether repaired. Iodide of potassium was not likely to be useful in such a case of hemiplegia, though syphilitic; while it was useful in cases of recent palsies of cranial nerves. In treating the latter, we were treating recent syphilitic disease; whilst in treating the kind of syphilitic hemiplegia under remark, we were treating local cerebral softening.

ART. 16.—*Researches on the Embolic Processes.*

By Professor COHNHEIM.

(*Untersuchungen über die embolischen Prozesse.* Berlin, 1872; *Archives Générales de Médecine*, Août, 1873.)

The author conceived the idea of applying to the study of embolism the method of research which had previously afforded such interesting results with regard to inflammation, and which consists in the direct microscopical observation of circulatory disturbances in the frog. The tongue of this batrachian is especially favorable for the study of embolism, as it is traversed longitudinally, on each side of the median line, by an artery and a satellite vein. This artery sends out insignificant branches towards the median line, but the branches to the lateral portions of the tongue are fairly important; when they have reached the apex of the tongue, the trunks of the two arteries anastomose and form an arch. Towards the base of the tongue a parallel important anastomosis of the lingual arteries takes place.

In order to produce embolic obturation of this artery and its branches, the author employed a fine emulsion of wax colored by soot. An injection of a small quantity of this solution was made directly into the heart, or into the most internal division of one of the aortic arches, and the branch corresponding to the carotid and lingual arteries; a temporary ligature thrown around the carotid directed the whole of the injected material into the lingual artery.

The animal having been curarized and laid out on the stage of a microscope arranged as in Cohnheim's classical experiments on inflammation, the following phenomena were observed after the injection.

Never, even in vessels of a relatively considerable calibre, was any coagulum formed around the embolic plug. The course of the blood was accelerated in the collateral vessels placed on the proximal side of the obstacle, and in front of, as well as behind this the column of blood was immovable. When the obturation had been complete and sudden, there was observed behind the embolus a mass of red mixed with white corpuscles; when, on the other hand, it had taken place gradually and incompletely, the red corpuscles had had time to escape, and there then existed behind the obstacle but blood serum containing a few leucocytes. Occasionally, during a certain period, the arterial branches which arise directly above the obstacle are likewise filled by an immovable column of serum. As to what takes place at the periphery of the obstructed artery, all depends, as has been shown by Virchow, on the existence or non-existence of an arterial anastomosis beyond the obstacle. If an anastomosis exist, the blood will flow very rapidly by this collateral passage in the peri-

pheral distribution of the obstructed artery. and the effects of the embolism will be insignificant. But if, on the contrary, the obstructed artery open directly into capillaries without presenting an intervening anastomosis—if, in short, it constitutes what Cohnheim calls "*a terminal arteriole*"—a total absence of circulation will be established in the whole capillary distribution of the arteriole, and even in the small veins which thence return the blood, as far as the point where this anastomoses with another small vein, beyond which point the circulation is quite free. The blood then flows back from this point towards the capillaries where the tension is almost nil, and soon determines a veritable engorgement of the capillary expansion corresponding to the obliterated artery—an engorgement which is quite visible to the naked eye. This is what, according to the experiments of Cohnheim, can soon be made out in the very trunk of the lingual artery, which frequently becomes a veritable *terminal artery* if its anastomosis with its congener of the opposite side becomes in its turn obliterated. The same result may be obtained by ligaturing the arterial trunk near its origin, after simple suppression of the anterior anastomosis by ligaturing the apex of the tongue. The engorgement in this case is produced by the veins of the base of the tongue.

The engorgement is speedily followed by hemorrhage. Beyond the walls of the capillaries and small veins may be observed masses of red corpuscles, which appear to the naked eye under the form of reddish lines, constituting the so-called hemorrhagic infarctions. In these capillary emboli the hemorrhage is produced as a punctiform deposit, in the centre of which may be found the embolus.

The cause of this hemorrhage cannot be the augmentation of the intra-vascular pressure, for it is likewise observed in the capillary emboli when this augmentation does not take place, and moreover it is not accompanied by increase in the transudation of blood plasma. Cohnheim regards as the cause of the hemorrhage an alteration in the nutrition of the capillary and venous walls under the influence of the suppression of the circulation. To support this view, he refers to some of his experiments, which consist in embracing in a ligature, for a period more or less prolonged, the whole base of the tongue; on the removal of the ligature the circulation is re-established, and then true hemorrhagic infarctions are formed in the organ. These infarctions are not produced by the simple obstruction of the venous circulation, as was shown by Cohnheim's previous experiments on the effect of ligatures on the veins. The suspension of the circulation affects the integrity of the capillaries and small veins, the walls of which permit diapedesis of the solid elements of the blood. In what this anatomical change consists remains for the microscope to reveal.

What takes place in the district which is supplied by the obliterated artery? The changes vary according as one has to deal or not with a *terminal artery*. If the artery receive arterial anastomoses beyond the embolic plug, the circulation becomes re-established; all is limited to the lesions produced by the embolus; this body is most frequently organized, and unites with the vascular wall, the remainder of the tissues remaining sound. If, on the other hand, the obliteration take place in a terminal artery, there is almost infallibly necrosis of the tissues corresponding to the hemorrhagic infiltration.

The organs which possess these *terminal arteries* are five in number: the spleen, the kidneys, the cerebrum, the retina, and the sub-pleural parts of the lungs; hence the frequency of hemorrhagic infarctions in these organs. This is not to say that infarctions cannot be produced in other regions of the body supplied with ordinary arteries; but in these parts they are due to very numerous embolic obstructions, occupying not only the principal artery, but also the collateral and anastomotic arteries of the region.

Infarction, then, is not due, as is taught by Virchow and Rindfleisch,* to a hyperæmia, to a collateral arterial fluxion followed by rupture, but to a venous fluxion, if one may thus express it; that is to say, to reflux of venous blood towards the capillaries. Where the veins are sufficiently well supplied with valves this reflux does not take place, and necrotic infarction is then developed without previous hemorrhage. The same occurs in regions where the veins do not possess valves, and where, nevertheless, embolism passes directly

to mortification without hemorrhage (this is what is observed in embolic softening of the brain). This absence of venous reflux and of consecutive infarction is due either to rapid coagulation of blood in the veins, or to reduction of the heart's strength, diminishing the *vis à tergo* and rendering reflux impossible.

This mechanism of the production of hemorrhagic infarctions is proved by the microscopical fact that the summit of the cone of the infarction exactly corresponds, not to the artery, but to the vein of the affected region. Hemorrhagic infarction, then, is properly a venous lesion, and is but indirectly dependent on the arterial embolus.

On Embolic Abscess.—Hitherto we have considered only emboli which act merely by virtue of their mechanical properties. There is, however, another kind of embolus which has specific irritant or septic properties, and which lead to the formation of abscesses. Thus, whilst in lung, for example, infarctions may be produced only where there are terminal arteries, that is to say, under the serous membrane, the metastatic or embolic abscess may be met with in any part of the organ, even near the root where large anastomoses exist. Infarction results from obturation, pure and simple, of a terminal arteriole; embolic abscess, from the obturation of any arteriole by an infectious embolus. The extent of the embolic abscess depends on the size of the migratory plug, or rather on its degree of virulence.

ART. 17.—*On Enlargement of the Bronchial Glands.*¹

By NOEL GUÉNEAU DE MUSSY, M.D., Paris.

(*British Medical Journal*, August 30.)

The enlargement, etc., of the bronchial glands, noticed by the anatomists as very common, has been described by the pathologists only in its most severe forms, and as very rarely met in adults. It is, however, very common. It may complicate all the affections in which the respiratory organs are concerned, and modify both the physical and the physiological symptoms of these affections. It usually produces cough or dyspnoea—in some cases aphonia and vomiting, according to the relation of the enlarged glands to the pneumogastric nerve, or to a portion of that nerve. Protracted whooping-cough, lasting, it may be, several years, is connected with this enlargement. The physical sounds are rubbing, impairment of elasticity, and acute percussion-sound at the upper part of the sternum, the inner part of the first two ribs, the intercostal spaces, and the sterno-clavicularis joint; and posteriorly over the laminae of the first four vertebræ, usually on one side. On auscultation, there are weakness, acuteness, roughness of the respiratory murmur in one part or in the whole of one lung; generally protracted respiration; sometimes localized sibilant ronchus; and very often, near to the spine and to the sternum, an expiratory *souffle*, which is the tracheal respiration conducted by the enlarged glands. Sometimes these signs may be modified by the movements of the neck. The treatment recommended was iodine internally, and locally chloride of sodium, arseniate and carbonate of soda, and such general means as improve the lymphatic constitution.

The President, Dr. Sibson, remarked that the instrument for measuring the chest, exhibited by the author of the paper, would be a valuable means of ascertaining the presence of deeply seated aneurisms. The therapeutical results obtained by Dr. Guéneau de Mussy in a disease which might prove fatal were most gratifying.

Dr. Little (Dublin) had found phosphorus in doses of a twentieth of a grain most valuable in reducing enlarged glands. It was sometimes necessary to continue the use of the remedy for some weeks before the desired effects were obtained, and also to attend to the general health.

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

Dr. Eade (Norwich) remarked on the advantages of phosphoric acid alone or combined. He had not found iodine of much use. He could not look on the disease as due to any one specific cause; its sources must be various. But a special diagnosis of the affection formed a most valuable part of Dr. Guéneau de Mussy's contribution.

Dr. Spender (Bath) also believed, with the author, that chronic pertussis was sometimes kept up by enlargement of the bronchial glands, and that from the same cause swelling of the face followed.

In answer to Dr. Drysdale, Dr. Little replied that phosphorus sometimes produced irritative dyspepsia.

Dr. Guéneau de Mussy said that he used phosphide of zinc in doses of a few milligrammes, in the form of a pill. He had found it to be a more stable compound than phosphorated oil, which did not keep well.

ART. 18.—*The Germ Theory of Disease applied to the Explanation of the Phenomena of Idiopathic Fever.*¹

By T. J. MACLAGAN, M.D., Dundee.

(*British Medical Journal*, August 30.)

It might be accepted as proved that contagium is particulate and organized. Being organized, it must be animal or vegetable. It was an accepted fact that the contagium is reproduced to an enormous extent in the system. The reproduction of an animal organism is competent to the production of the essential phenomena of idiopathic fever. These are: 1. Increased waste of the nitrogenous tissues; 2. Increased consumption of water; 3. Preternatural heat; 4. Increased frequency of the cardiac action; 5. Increased frequency of respiration. An animal organism consumes oxygen, nitrogen, and water, and gives off carbonic acid.

1. The increased waste, or, more properly, diminished bulk, of the nitrogenous tissues may be due in part to increased disintegration, but is mainly attributable to defective supply, consequent on the consumption by the contagium of particles of the nitrogen which enters the blood from the assimilated ingesta, and which is laid hold of by the contagium at the moment when it is about to pass from the circulating to the organ albumen. The propagation of the contagium takes place in the tissues; and the action which normally results in the formation of tissue, during the continuance of idiopathic fever, results in the formation of the protoplasm of the contagium-particles. This action is identical with that which leads to the formation of tissue, and is accompanied by the same increased flow of blood through the capillaries which would result from increased tissue-action. The contagium arrests the nitrogen requisite to the completion of the *constructive* tissue changes, but the retrogressive changes go on, and urea is formed in increased quantity.

2. The increased consumption of water is due to the increased demand for that fluid consequent on the propagation of an organism which largely consumes water.

3. Preternatural heat is due to excessive consumption of the oxygen, nitrogen, and water by the contagium. It is immaterial, so far as the production of increased heat is concerned, whether the consumption of these materials results in the formation of tissue or of the protoplasm of the contagium.

4. Increased frequency of the heart's action results from the general hastening of the blood-flow through the capillaries; and this, in its turn, is due to the increased demand for blood in the tissues consequent on the propagation of an organism having wants identical with their own.

5. Increased frequency of respiration may be due to diminished supply of oxygen, or to excess of carbonic acid; to whichever cause it is attributed, the reproduction in the system of an organism which consumes oxygen and gives

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

off carbonic acid is capable of giving rise to it. All the other phenomena of fever which are usually attributed to blood-poisoning are really due to defective supply of nutrient material. The typhoid symptoms, the delirium, and even the convulsions which occur in severe cases, are all of anæmic rather than of uræmic origin. This theory affords a sound pathological basis for that treatment which clinical experience has shown to be most successful, and which essentially consists in giving to the patient what his system is deprived of by the propagation of the contagium, oxygen, nitrogen, and water—fresh air, easily digested nitrogenous food, and water *ad libitum*.

Dr. Ross (Manchester) said that Dr. MacLagan began by explaining the most complex case instead of the simplest. A theory of symptomatic fever might possibly be extended to the explanation of idiopathic fever, but it was perfectly certain that a germ-theory of the latter could not possibly be applied to the former condition, because of the entire absence of germs. Dr. Ross thought that the fever was caused by the rapid growth of protoplasm, and the consequent breaking down of structure. The breaking down of structure was the essential condition of fever, since the forces originally expended in raising it were now in its fall given out as heat vibrations. Dr. Ross doubted the existence of germs in idiopathic fevers. The fallacy arose from not bearing sufficiently in mind the distinction between morphological and physiological individuals. All microzymes were morphological individuals of the same order; but they were physiological individuals of different orders. Some represented the adult condition of these minute organisms; others simply a stage to a higher development; while a third grade was merely formed and detached from the tissues of a higher organism. These corresponded to the actual, potential, and partial physiological individuals of Hæckel, and the microzymes of infected fluids belonged, in Dr. Ross's opinion, to the latter class alone. He had seen microzymes form from the white blood corpuscles.

Dr. MacLagan said that the criticisms of Dr. Ross were directed to the germ-theory as applied to symptomatic fever. The subject of the paper was the same theory applied to idiopathic fever, and during the whole of it no reference was made to symptomatic fever. He believed that his theory was applicable to that form of fever also, and hoped at another time to give his views on this point. He believed that the contagium was often taken into the system through the lungs, and that each contagium gave rise in all cases to its own specific disease, and never to any other.

ART. 19.—*On Hay Fever*.¹

By M. E. DECAISNE.

(*Gazette Hebdomadaire*, No. 36, 1873.)

"1. This affection attacks indifferently individuals who mow and gather hay, and those who are quite strangers to this kind of work, those who are exposed to emanations from forage plants, and those who are not. In short, with no intention of absolutely denying the influence, to a certain extent, on a small number of subjects, of dust or emanations from forage plants, as an aggravating cause of the symptoms, these, in my opinion, play but a very secondary part.

"2. The collected symptoms of this affection may be presented at any season as a result of overheating or chilling, and especially in emphysematous subjects whether exposed or not to dust or to irritating emanations.

"3. The annual periodicity which has been supposed to be one of the characters of this affection has not, I think, been proved; a majority of the patients observed by myself remained free from symptoms for many years.

"4. With regard to the dyspnoea, which is generally regarded as a pathognomonic sign of hay asthma, this, according to my view, and that of some other authors, is but a more or less marked extension of the irritation which affects the conjunctiva and the nasal and pharyngeal mucous membranes.

¹ Communicated to the Académie des Sciences, Paris.

"5. I think that the affection known in England as hay fever, or summer catarrh, ought to be regarded as a catarrhal fever, influenced and modified in its multiple causes, in its progress, and according to individual aptitudes, by atmospheric conditions which produce acute affections of the bronchi.

"6. Finally, I hold that the so-called summer asthma ought to be struck out from the nosological list as a morbid entity."

ART. 20.—*On Albuminous Expectoration Consecutive to Thoracocentesis.*¹

By M. FÉRÉOL.

(*Gazette Hebdomadaire*, No. 24, 1873.)

This phenomenon, observed by Besnier, Woillez, Moutard-Martin, and other physicians, has lately been the subject of an inaugural thesis by Dr. Terrillon, who collected twenty cases, two of which were fatal. M. Féréol endeavors to complete this work by supplying an explanation of the albuminous expectoration which sometimes follows thoracocentesis.

There are four admissible hypotheses: puncture of the lung by the point of the trocar; spontaneous perforation and direct communication between the bronchial tubes and the pleural fluid; pleural absorption of the fluid, and its passage into the lung and bronchial tubes; sero-albuminous transudation through the alveolar walls, in consequence of rapid pulmonary congestion.

M. Terrillon eliminates the first and the third hypothesis, and admits, in the first place, the possibility of a transudation through the alveolar walls. Still he hesitates to accept this view, and regards as the most probable, if not the demonstrated cause of the albuminous expectoration, spontaneous perforation of the lung, notwithstanding the absence of pneumothorax. This view, he states, will probably be confirmed by future autopsies.

M. Féréol remarks that as autopsies are rare in cases of this kind, we shall remain for a long time uncertain with regard to spontaneous perforation, and he believes that he is in a position to demonstrate by clinical observation that the fluid may pass from the pleura into the lung through fissures without pneumothorax being inevitable. Examples of pleuritic effusions emptying themselves by the bronchi are far from rare. He cites a new case, which is very interesting, but too long to give here. In this case the patient, before any operation had been performed, furnished an abundant expectoration of fluid, resembling *crème au chocolat*, and when, several days later, thoracocentesis was performed, a perfectly identical fluid was obtained by puncture. No sign of pneumothorax was presented by this patient.

Spontaneous perforation during pleurisy frequently occurs in infants, and M. Barthez admits that it is caused by ulceration of the pulmonary tissue which, towards peripheral parts of the lung, has returned to its fetal condition; the fluid passes into the lung from the pleura, and penetrates as far as divisions of the bronchus, where it excites cough, and is thence finally expelled. This lesion M. Féréol calls a pleuro-bronchitic fistula, in contradistinction with the broncho-pleural fistula which results from a preliminary broncho-alveolar lesion, and always determines pneumothorax.

But in regarding together what passes spontaneously in the course of certain pleurisies, and what sometimes takes place after thoracocentesis, M. Féréol finds analogous conditions, and is therefore led to admit that after the operation, and in consequence of the fits of coughing which it provokes, the condensed pulmonary tissue, deprived of its functions, and of its normal circulation, for a period more or less long, infiltrated by passive œdema, and having undergone probably a superficial necrosis of a portion of epithelium and connective tissue, may be readily penetrated by the pleural fluid, and act as a temporary filter of this exudation.

¹ Communicated to the Société Médicale des Hôpitaux, Paris.

M. Féréol, relying on an article by M. Leplat, concerning spontaneous perforations, and one by M. Bernutz, on phlegmon of the anterior wall of the abdomen, thinks that the perforation of the lung and pleura in cases of albuminous expectoration may result from an inflammatory process affecting the pulmonary parenchyma, and associated with the inflammation of the pleura, but at first independent of the pleurisy, in the same way that the pleuro-cutaneous fistula is preceded by a phlegmonous affection of the skin.

M. Féréol does not deny that albuminous expectoration cannot result from broncho-alveolar œdema suddenly developed by the immediate return of the functions of the lung after the operation, but there are facts which oppose this explanation, and which indicate a filtration of fluid through pulmonary tissue, already weakened by a sub-inflammatory process preceding the operation.

ART. 21.—*On Treatment in Cases of Tapeworm and Threadworm.*¹

By T. SPENCER CORBOLD, M.D., F.R.S.

(*British Medical Journal*, August 30.)

In this paper the author insisted upon a more careful mode of dealing with cases of tapeworm than that which, from the evidences he adduced, appeared to be in vogue. He referred to recent successes obtained in his own practice, and considered that the number of rapid cures might be relatively increased by attention to certain rules of treatment. The first portion of the paper concluded by a reference to one remarkable case, in which the patient had played the part of host or bearer for a period of no less than sixteen years. In the second part of his communication the author remarked on the difficulties attending the curative treatment of ascarides in adults. He explained the reasons why this was the case, and expressed the opinion that radical cures were much more frequent than was commonly supposed. He passed in review the various drugs employed in his own practice, but sought to show that ultimate success was chiefly dependent upon the observance of certain sanitary and prophylactic measures. He relied chiefly upon the exhibition of salines, steel, vegetable tonics, local ablutions, and cold water enemata, the latter often repeated.

ART. 22.—*Remarks on Hematozoa.*¹

By T. SPENCER CORBOLD, M.D., F.R.S.

(*British Medical Journal*, August 30.)

The author called attention to the great interest excited by Dr. Lewis's discovery of worms in the blood of persons suffering from chyluria; and after passing in review some of the more remarkable records referring to the same habits in the case of other parasites affecting man and animals, he referred to his own work and experiences with this class of entozoa. In particular, he dwelt upon the sanitary aspects of the question, in relation to infection, and called attention to the remarkable energy displayed by our Indian sanitary authorities in the matter. He especially referred to the labors of Drs. Cunningham, Lewis, Hewlett, Chevers, and Joseph Fleming. Dr. Cobbold incidentally referred to Professor Leisegang's discovery of a stronglyloid hematozoon in the blood of dogs (as brought under his notice by Dr. Schliep, of the German Hospital), and he exhibited three hearts of animals stuffed with entozoa. The first heart was from a dog, which he received from Her Britannic Majesty's Consul at Ningpo, China; the second, also from a dog, was received from Yokohama, Japan, through Mr. Walsh; and the third, that of a seal, was received from Mr. Coughtrey, Demonstrator of Anatomy at the Liverpool School of Medicine.

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

ART. 23.—On Albuminous Expectoration Consecutive to Thoracocentesis.

By M. BLACHEZ.

(Gazette Hebdomadaire, No. 30, 1873.)

Under the above heading, a very interesting thesis was written by Dr. Terrillon, in the month of March. In the year 1863 the attention of the profession was directed to this lesion by Dr. Pinault. Analogous cases have been since reported by MM. Despine, Woillez, Marrotte, Behier, Herard, and others. M. Féréol has recently brought this subject before the Society of the Hospitals, and has added some ingenious views concerning pleuro-bronchial perforation without pneumonia. We propose to examine the different opinions to which this condition has given rise.

It is generally after thoracocentesis performed under quite simple conditions that this lesion results. After an interval varying from a quarter of an hour to several hours, the patient is attacked with dyspnoea, and expectorates a quantity of yellowish, viscid, and frothy fluid. The quantity is very variable, and may amount to two litres or even more.

One may, with M. Terrillon, admit three clinical forms: a mild form characterized by slight dyspnoea, and a small amount of expectoration, the cough being troublesome; the symptoms take a continuous course, and last for several hours, or even for several days. In the third and severe form there are symptoms of suffocation. The fluid is at first discharged abundantly; the bronchi and trachea are then clogged, the dyspnoea attains its maximum, true asphyxia takes place, and the patient rapidly succumbs. In one case reported by M. Terrillon, death occurred in less than a quarter of an hour. Death, however, rarely takes place in these cases, and out of twenty recorded cases, two only were fatal.

The course of the lesion is very different in the first two forms. The expectoration in the mild form is often very temporary, and disappears in the course of twelve hours. It may in the intense form be prolonged for several weeks, and be repeated after each puncture.

The characters of the expectorated fluid are interesting. It has a yellowish color, and when allowed to remain for a time, disposes of itself in three successive layers: a persistent and very abundant frothy layer, a layer of yellow and sometimes transparent fluid, which is sometimes mixed with solid expectoration, and a third layer at the bottom of the vessel, which under the microscope reveals the presence of epithelial cells, and some white and red blood corpuscles. When treated with nitric acid, this fluid presents an abundant precipitate of albumen. Acetic acid gives a precipitate of mucine, due to the presence of bronchial mucus. The characteristic reaction is the albuminous precipitate, which is never present in the fluid of simple bronchorrhœa.

In the cases where albuminous expectoration has been observed, abundant acute effusion has almost always been present. The operations for thoracocentesis had been made under favorable conditions.

One circumstance which seems to be of capital importance has been noted. This relates to the rapidity with which the chest was emptied. In the majority of cases recorded by M. Terrillon, the pleura was rapidly emptied, and as much as possible of the fluid effusion removed.

What is the source of this albuminous fluid? Many explanations have been proposed.

The first is the passage of pleural fluid into the bronchial tubes through a perforation made with the trocar. The opinion is held by MM. Woillez and Marrotte. The former regards the albuminous expectoration as a positive sign of perforation. He concludes that a wound of the lung occurs more frequently than is generally supposed, that the lesion is often latent, and without serious consequences, and that it may be indirectly made out by seeking for the presence of albumen in the ordinary expectoration.

This opinion cannot well be accepted in the presence of recently well-attested facts. And in the first place the observations of albuminous expectoration deal for the most part with cases where the abundance of fluid prevented the instrument from entering the lung, and when a capillary trocar is made use of, the point of which can be withdrawn, one must admit that the lung could not have been wounded until near the end of the operation, when the organ dilates and approaches the instrument.

In a case recorded by M. Behier, special precautions were taken. The trocar was not introduced by more than four centimetres of its length, and the point was soon withdrawn. At the post-mortem examination it was shown very clearly that the lung had not been touched. Another objection may be drawn from this case in the fact that the bronchial expectoration occurred about a quarter of an hour after the end of the operation, when the pleura was almost empty, the expectorated fluid then surpassing in abundance that which had been evacuated through the canula. It is necessary to admit, then, in cases of this kind, either that a considerable quantity of fluid has been left in the pleural cavity, or that this fluid may be reduced in a very short time. This hypothesis is opposed by the results afforded by percussion.

Besides, the results of a puncture of the lung are well known; issue of some drops of blood, expectoration more or less sanguinolent, acute pain in the chest, sometimes pneumothorax. Have any of these symptoms ever been indicated?

There remains one other objection which seems to be conclusive. Albuminous expectoration may coexist with purulent pleurisy. This happened in a case reported by Dr. Lande. The effusion was composed of creamy pus, and after each of two operations performed with Dieulafoy's syringe there was an abundant albuminous expectoration.

One may then reject the explanation by wound of the lung.

Is it necessary to consider the question of spontaneous perforation? It seems to be certain that pleuro-bronchial perforation—namely, a perforation made from the pleura into a bronchial division, may exist without pneumothorax. Dr. Féréol has published an interesting case which proves this. In the pleurisy of infants, when the fluid is injected through the bronchi, absence of pneumothorax is the rule according to Dr. Barthez.

It may be remarked, in the first place, that instances of spontaneous perforation without pneumothorax are rare, except with purulent pleurisy. In admitting their possibility in cases of serous pleurisy, we would understand, with M. Moutard-Martin, that the absence of pneumothorax might be explained by the slowness with which the effusion is discharged; the surplus only being evacuated, and the pleura always in a sufficient state of tension to prevent the entrance of air.

The conditions, however, are very different after thoracocentesis, especially when the pleura has been almost quite emptied. In the first place, it is at the period when most of the fluid has been removed, and when violent cough takes place, that perforation should take place. But albuminous expectoration is always observed at a period more or less remote from the operation. M. Moutard-Martin has recorded a case of spontaneous perforation of the wall of a small cavern. But the accident took place at the end of the thoracocentesis during efforts at coughing, at the veritable physiological moment, and one hour after the operation, when all the respiratory manœuvres were suspended.

It is not then quite rational to conclude with Dr. Féréol as to the identity of the mechanism of perforation in effusions treated by puncture and effusions left to themselves. We have now to explain only the albuminous expectoration that follows thoracocentesis. M. Féréol insists on those conditions of perforation without pneumothorax, only in order to justify a grotesque hypothesis, according to which pulmonary parenchyma in pleurisy is a kind of inert sponge, which is mechanically permeable by fluid. In traversing this novel filter the nature of the filter may become modified, and therefore it is no longer necessary in admitting a perforation, to prove absolute identity of the two liquids: that in the pleura and that of the expectoration.

These views are, as the author himself acknowledges, pure hypotheses.

Ingenious as they may be, they are not supported by a single demonstrated fact.

When, after a lung has been compressed for a certain time by fluid, and it regains, in consequence of the evacuation of this fluid, its normal dimensions, a serous or sero-sanguineous effusion takes place into the organ, and a certain quantity of this serosity may be expelled through the bronchi. This explanation was proposed by M. Pinaut in 1853—it was again brought forward and defended very forcibly by M. Moutard-Martin in a recent discussion on this subject.

This view rests upon physiological experiments. It is well known that section of the pneumogastric nerves determines the presence of a frothy effusion in the bronchi, and sanguineous engorgement of the pulmonary tissues. Longuet insists on the characters of the effused fluid, and has shown that it is composed of two parts: bronchial mucus and serosity. The serosity has its origin in congestion of the parenchyma, which is consecutive to paralysis of the vessels. Niemeyer also admits that in pulmonary hyperæmia there is produced a fluid and serous alveolar transudation which is very different from the proper bronchial mucus.

According to M. Jaccoud, pulmonary œdema results from a serous exudation into the walls and on the free surfaces of the alveoli, a necessary consequence of any pulmonary congestion of a certain duration.

In this treatise on Humors, M. Robin admits that under the influence of congestion of the capillary network on the surface of the alveoli, an exudation may take place of a certain quantity of fluid quite distinct from bronchial mucus.

In a lung which for a long time has been closed against its natural exciting agent, the rapid access of atmospheric air will determine, in the first place, an exudation, and after an interval, a veritable paralysis. The latter will necessarily result in passive congestion with œdema. The period which lapses between the concentration of the pleural fluid and the production of the albuminous expectoration goes to support this explanation. There is no necessity to admit, with M. Moutard-Martin, an epithelial desquamation in the alveoli, which, however, is very possible, and seems to render more probable the fact of the transudation of sero-albuminous fluid.

This last explanation seems then to be the legitimate one, and to be better supported by evidence than any of those previously mentioned.

A practical result may probably arise from this discussion. The majority of practitioners who have specially concerned themselves with thoracocentesis insist on the utility of a slow and incomplete evacuation. They doubt the wisdom of rapidly emptying the pleural cavity. The best means of avoiding accidents would be a partial evacuation only of the effusion at the first operation, and repetitions of the operation at intervals of one or a few days. With the new proceedings of thoracocentesis this plan would be a very practicable one.

ART. 24.—*Some Cases of Hydatid Disease.*

By S. O. HABERSHON, M D.

(*Guy's Hospital Reports*, vol. xviii., 1873.)

In the *Hospital Reports* for 1860, Dr. Hubershon published several cases of hydatid disease. In this volume he places on record four additional instances, because, he says, they illustrate some of the difficulties in diagnosis, and because they show the importance of early and decided treatment when the nature of the malady is ascertained. In the first case the hydatid appeared to have located itself originally in the lung, where it seems to have given rise to so much irritation as to have caused hemorrhages. During one of these a portion of membrane was expectorated, in which Dr. Moxon detected the plicated foldings of a hydatid cyst. Death in this case was caused by hemorrhage from a vein which opened directly into the cavity left by the hydatid. The result was more fortunate in the next instance, in which the hydatid cyst was also expectorated.

torated. The symptoms indicated that the disease was originally seated in the liver, that adhesive inflammation on both sides of the diaphragm had taken place, and that the cyst had then made its way into the lung. The diagnosis in the third case was more difficult, for even after the hydatid character of the disease was recognized, it was doubtful whether the mischief was located in the kidneys or in the spleen or in the left lobe of the liver. The tumor extended too far into the left loin and into the left hypochondriac region for it to be the left lobe of the liver, but it was more difficult to ascertain whether the kidney or the spleen was affected. The cyst was twice punctured by Mr. Bryant, who drew off on the first occasion thirty-seven ounces of a clear fluid free from albumen, in which Dr. Fagge detected the head of an echinococcus surrounded by a row of hooklets. At the second operation five pints of fluid also containing scolices were removed. A small number of hydatid cysts also came through the canula. The cyst was subsequently washed out with a dilute solution of carbolic acid (two grains to four ounces). The patient finally sank from exhaustion induced by rupture of the sac into the peritoneal cavity. In the last case there was an old hydatid cyst in the liver, which induced perforation of the diaphragm and subsequent pleurisy and death.

The unfavorable termination of most of the instances recorded in this paper, induces Dr. Habershon to believe that if the diagnosis be clear, it is a safer plan to withdraw the fluid early than to trust to the possible death of the hydatid and gradual wasting of the cyst, and in cases also where there is a re-filling of the cyst after tapping he regards it as the wiser plan to re-empty the cyst early than to allow suppurative changes to ensue by the indefinite postponement of a second operation.

ART. 25.—*Clinical Remarks on Hydatid Cysts.*

By WILLIAM ROBERTS, M.D.

(*The Liverpool and Manchester Medical and Surgical Reports, Manchester, 1873.*)

The author finds that the fluid of hydatid cysts varies in character according as the cyst contains living or dead echinococci. If the echinococci be living, the fluid is limpid, colorless, or faintly opalescent, with small white granules (broods of scolices or echinococci heads) floating in it, and may be largely albuminous. When the parasite dies, the fluid rapidly changes; it becomes slightly albuminous, and afterwards loses its transparency and becomes thick, white, and opaque, so as to resemble pus in its naked-eye characters.

In a case of hydatid of the liver, Dr. Roberts used large doses of iodide of potassium, as much as thirty grains three times a day, with the result, apparently, of destroying the parasite. The tumor had been steadily growing up to the moment when the patient began to take the iodide, and even for ten days after; then diminution and retrogression commenced, and went on progressively, though very slowly, until the cyst had entirely disappeared.

ART. 26.—*On Tapping in Hepatic Ascites.*

By JOHN M'CREA, M.A., M.D., Senior Medical Officer to the Belfast Dispensary.

(*Dublin Journal of Medical Sciences, August.*)

The author claims the following advantages for early tapping in hepatic abscess:—

1. It relieves intra-portal pressure. The backward pressure generated in the portal system by hepatic obstruction seeks vent in various directions. In one man diarrhœa, in another bleeding piles, and in another an ulcerated leg relieves the liver. It is unfortunate if the *vis medicatrix naturæ* makes a therapeutical error, and causes a hæmatemesis. It is not quite so bad if the

peritoneum is the safety valve. Tapping unweights this valve, and relieves intra-portal pressure.

2. The removal of the pressure which the effusion exercises on the liver will facilitate the development of collateral circulation through the more healthy parts of the viscus.

3. The relief of the abdominal tension will make it easier for the vena cava, vena azygos, and parietal abdominal veins to establish a collateral circulation between the abdomen and the chest.

4. The removal of tension from the vena portæ and its branches will promote the absorption of remedies.

5. We clear away an impediment in the way of the digestion and absorption of nutriment, which must be seriously affected by abdominal distension.

6. We relieve the kidneys, and these organs are not slow to exhibit signs of relief by increased activity after each tapping.

7. In ordinary cirrhosis we relieve the liver of a pressure that is assisting the morbid processes, which produce contraction.

8. We keep relieved other important organs, the distress of which makes tapping, at least, an absolute necessity.

9. We avoid the danger of typhoid peritonitis, which sometimes attends late tapping.

The doctrine of delay is put by Murchison thus: "When the ascites has embarrassed the breathing, and not till then, you must draw off the fluid by the operation of paracentesis. The tapping may have to be repeated, but the rule is always to delay it as long as possible, until, in fact, there is danger of the respiratory function becoming seriously interfered with by the pressure of the fluid." The reason which he gives is to avoid the great drain of albumen. And yet, he says, that the operation frequently causes the albumen to disappear from the urine. "Surely this," Dr. M'Crea writes, "is considerable compensation. Besides," he adds, "the pressure of the fluid cuts off the supply of fresh albumen to the system, by interfering with assimilation." Frerichs puts the same argument for delay in a slightly different shape. He says that the pressure of the ascitic fluid on the vena portæ lessens the rapidity of effusion, and that by paracentesis we give up this advantage. If it be an advantage it is easy to retain it; a tight binder could be used throughout the intervals between the tappings to keep up the pressure. But would this be judicious? It is noteworthy that in many of the cases recorded by Frerichs, the high pressure generated in the portal system broke out in the gastro-intestinal tract in a flux, which was the immediate cause of death.

ART. 27.—On the Pathology of Infarctions and of the Inflammatory Processes in Septicæmia.¹

By M. V. FELTZ.

(*Archives Générales de Médecine*, Août, 1873.)

The comparative study of infarctions caused by the introduction into the blood of organic or inorganic material, and of infarctions due to the inoculation of septic substances, prove that all infarctions pass through the same retrogressive metamorphoses, but that the pathological processes differ in the zones of elimination. If, in the former case, leucocytic degeneration at the expense of the cellular substance (protoplasm) be the rule, the same does not occur in the second case, where in this substance is established a granulo-fatty or colloid degeneration, which causes a destruction of tissues at least as rapidly as suppuration.

The infarctions of septicæmia proceed from capillary hemorrhages dependent on arrests in the circulation, which arrests are determined by morphological and chemical changes in the blood. From this point of view the infarctions

¹ Communicated to the Académie des Sciences, Paris.

of purulent infection differ markedly from the infarctions of septicæmia. In the former case, the vitiation of the blood is secondary and in some sort mechanical, and is induced by the introduction into the nutritive fluid of organic material; in the second case, the morbid change of the blood is primary, and is that which gives rise to chemical and morphological changes, leading to the formation of infarctions. In septicæmia infarctions rarely lead to metastatic abscesses, because almost invariably the morbid change in the blood is so intense and so sudden that it causes death before the infarctions have had time to soften and to pass into that state which is called suppuration.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 28.—*On Unilateral Pulmonary Apoplexy in its Relations to Cerebral Hemorrhage.*

By Dr. AUGUSTE OLLIVIER.

(*Archives Générales de Médecine*, Août, 1873.)

"It has been known for a long time that, after section of the pneumogastric nerves in animals, the lungs may become the seat of effusions of blood.

"To Dr. Brown-Séquard belongs the honor of having demonstrated by numerous experiments the almost constant occurrence of veritable hemorrhages in the thoracic and abdominal viscera after lesions of different parts of the base of the encephalon, and of certain parts of the encephalon itself.

"According to this eminent physiologist, these hemorrhages are habitually situated in the lungs, the muscular tissue of the heart, under the pleuræ and pericardium, and in the supra-renal capsules and kidneys. They are most frequently met with in the lungs. When the lesion is exclusively limited to one-half of the protuberance, the hemorrhages are found particularly in the lung of the opposite side, but also, in a much less degree, in the lung of the same side.

"Dr. Brown-Séquard admits that rupture of the bloodvessels, which gives rise to these hemorrhages, is due either to a simultaneous contraction of the veins and arteries appertaining to certain capillaries, which, being immoderately distended, burst and give rise to hemorrhages; or (and this is much less probable) to a contraction of the small veins only, which causes an accumulation of blood in the capillaries, and consequently rupture of the latter.

"Dr. Brown-Séquard thinks, however, that the rupture of the capillaries is due to irritation of the nerves of the bloodvessels, consequent on lesions of the pons Varolii and other parts of the base of the encephalon. He has demonstrated by experimentation such an amount of contraction of the bloodvessels in certain parts of the lung that the parts seemed absolutely exsanguine.

"I arrive now at another question which is not less interesting, and concerning which the opinions of physiologists have long differed. What is the track followed by those vaso-motor nerves which, setting out from the injured part of the encephalon, make their way to the lung in which hemorrhage takes place? M. Schiff and Dr. Brown-Séquard maintained that these nerves descended with the fibres of the pneumogastric, but the latter physiologist in more recent experiments succeeded, after dividing the vagi and irritating the proximal ends, in producing pulmonary hemorrhages, whilst nothing of the kind was observed after irritating the distal extremities. He concluded from these results, and still holds to this conclusion, that the vaso-motor nerves of the lungs, and also those of the heart and other viscera, pass through the cervical portion of the spinal cord and the first thoracic ganglion. Moreover, he maintains that the vaso-motor nerves of the thoracic and abdominal viscera do not come from the elongated portion of the spinal cord, as is generally supposed, but rather from the pons Varolii and the parts which are placed around and above, especially the different peduncles."

ART. 29.—On the Differential Diagnosis of Cerebral Apoplexy and Embolism.

By Dr. ADOLF SCHMIDT.

(*Deutsches Archiv für klinische Medicin*, x. 3; *Schmidt's Jahrbücher*, No. 6, 1873.)

As a proof that a sure differential diagnosis between these two processes is impossible, and that even a probable diagnosis should be made with great caution, the author reports two cases of cerebral embolism which occurred in the Erlangen clinic. The patients were both old women, and presented what are the usually described symptoms of apoplexy—namely, advanced age, rigidity of the arterial walls, left-sided hemiplegia, absence of any history and indications of any previous cardiac disease or of severe general affection affecting the whole organism. In both cases there was loss of consciousness lasting over two days, and great intensity of the paralysis.

In one of these cases the autopsy revealed slight stenosis of the mitral valve, of which there had been no symptoms during life, and embolism of the artery of the right Sylvian fissure. In the other cases there was a thrombus in the right internal carotid, extending as far as the intracranial portion of the vessel, advanced sclerosis of the cerebral arteries, and great development of the posterior communicating, and the right posterior cerebral arteries.

ART. 30.—On Apoplexy of the Pons.

By Dr. G. JUDELL, of Hamburg.

(*Berliner klinische Wochenschrift*, ix. 24; *Schmidt's Jahrbücher*, No. 3, 1873.)

In a post-mortem examination of a female, aged forty-four years, who died from facial erysipelas seven months after an attack of hemiplegia on the right side, the following condition was presented: in the anterior portion of the left half of the pons in front of the origin of the left facial nerve were two cysts, each of the size of a cherry-stone, filled with a milk-white pultaceous material; one of these reached as far as the left cerebral peduncle.

In this case the hemiplegia had occurred suddenly without any loss of consciousness; four days later there was intense paresis of the right leg, whilst the right arm remained completely paralyzed; the tongue was directed to the right side, and the movements of the organ and also articulation were disturbed. There was no palsy of the facial nerve. The pupils were much contracted, but reacted well to light.

Under treatment by faradization the paralytic symptoms were considerably relieved, and the condition of the pupils became normal. A month before death, symptoms of cerebral irritation came on, and these were subsequently associated with fever and decubitus, and finally with fatal facial erysipelas.

ART. 31.—On the Modes of Causation of Epilepsy and other Convulsive Affections at Different Periods of Life.

By H. CHARLTON BASTIAN, M.D., F.R.S.

(*British Medical Journal*, August 30.)

The author used the word epilepsy in the broader sense of the term, and also included the consideration of certain allied convulsive affections, commonly known under the name of eclampsia. His views were founded principally upon notes of upwards of 300 cases of these affections, which had come under his own care. After commenting upon the uncertain use and wide meaning of the words "cause" and "causation" as applied to particular diseases, the author pointed

out that the "causation" of epilepsy and allied affections had to be considered under three main divisions. 1. The proximate cause of the fit, *i. e.*, the actual condition of the nervous system which is brought about in all cases, and upon the occurrence of which the fit immediately depends. This was the physiological aspect of the question, into which the author did not enter. He confined his remarks to the more purely medical aspects of the problem, included under the two remaining divisions. 2. Predisposing causes. 3. Exciting causes. The "predisposition" to attacks of this kind may be acquired during the life of the individual, or it may be born with him; that is, he may inherit a tendency of this kind from some of his ancestors. In this state there is an increased mobility of the nervous system, and a lack of control in the higher centres. After considering the modes in which such a predisposition may be acquired during the life of the individual, Dr. Bastian entered fully into the consideration of the different "exciting causes" of epilepsy and other convulsive affections, showing how these varied at different periods of life, and what was their relative importance at these different epochs.

ART. 32.—*On the Dynamics of Epilepsy and Convulsions.*

By J. THOMPSON DICKSON, M.A., M.D.

(*Guy's Hospital Reports*, vol. xviii., 1873.)

In a paper on the above subject, Dr. Thompson Dickson advocates the view that all excito-motor affections are the resultants of two factors—the first, loss of cerebral control; the second, an excitant. Both factors, he says, are always present in convulsions, whether the convulsion be local or general, in epilepsy and eclampsia, though the second may be so far wanting as to render the chain of symptoms, as commonly described, incomplete. The cord capable of reflecting excito-motor stimuli under certain circumstances, must be considered as extending from the united thalami optici and corpora striata to the caudal extremity of the medulla spinalis. The normal influence exerted by the cortex of the brain on the excito-motor apparatus is one of control, an influence exerted more or less through the simple agency of volition or will, which presumably is capable of controlling an impulse to most involuntary movements, such normal reflex acts as deglutition and ejaculatio seminis, whose centres of action are out of connection with the cortical gray matter, being of course excepted. The occurrence of local convulsions the author explains by supposing that the power of control (by excision, tumor, abscess, or other means of destruction of tissue) is cut off from a limited area of the brain's surface.

Dr. Dickson thinks that the proximate cause of excito-motor action is to be sought for in some alteration in the circulation of the brain, but he agrees neither with Dr. Marshall Hall, in believing that this alteration depends upon an impeded flow of venous blood from the brain, nor with Mr. Solly, in considering it to be due to an active determination of blood to the head. He holds, on the contrary, that the condition really present is cerebral anæmia. In support of this view he refers us to observations, made in slaughter-houses, where animals are put to death by bleeding, the effect of which is always to produce convulsions before death. This was first explained by the assumption that muscles contracted spasmodically when deprived of blood, but the fallacy of this opinion has been demonstrated by Kussmaul and Tenner, who have shown that deprivation of the brain of arterial blood by tying the vessels of the neck will produce all the effects as perfectly as, or more perfectly than, depletion. This conclusion has been rendered still more certain by the study of the brain by Donders's method, which consists in inserting an air-tight window into the skull and observing the brain through it. It is then found that on compression of the large arteries of the neck complete anæmia of the brain and its membranes ensues, and this continues until the convulsion begins, when the venous anæmia partially subsides, though the arterial and capillary anæmia is unaltered. Indirect evidence in favor of the same view is furnished by the blanched anæmic appearance of the face and neck on the invasion of an epileptic attack,

which must correspond with the condition within the skull. Moreover, convulsions are produced by the injection of water into the circulation.

The invasion of unconsciousness in epilepsy is always sudden, and it may be explained by supposing that under the influence of some irritant an instantaneous contraction of the smaller arterial vessels takes place. This irritant may be a tumor or an abscess seated within the cranium, or it may be contained in the blood, or may act upon the medulla spinalis from some of the parts of the body. The author regards the loss of consciousness which takes place in apoplexy as also caused by anæmia of the brain, the extravasated blood in this case acting as the irritant. Niemeyer has long held the view that apoplectic stupor was due to this condition, but he explains its occurrence differently.

Dr. Hughlings Jackson has recently advanced the theory that from the seat of pathological lesions discharges are sent out, which are distributed to certain muscles in the case of local affections, and to the muscles generally in the case of a general affection. Dr. Dickson maintains, on the contrary, that when control over certain muscles is lost or diminished by destruction or injury of a portion of the surface of the brain, involuntary or convulsive movements will occur in these muscles from reflex excitation. The muscles, he says, contain a power of contraction in themselves, irrespective of mandates from the cerebrum, and convulsive movements may be induced in a warm-blooded animal after the whole of the cerebrum has been sliced away.

ART. 33.—On the Causes and Treatment of certain forms of Sleeplessness.

By DYCE DUCKWORTH, M.D.

(*British Medical Journal*, August 30, 1873.)

In this communication the author called attention to certain forms of insomnia that appeared to have escaped the attention of many systematic and special writers. In especial, it was shown that a most common cause was dyspepsia occurring at night. The peculiarities and clinical facts of this nocturnal dyspepsia were discussed, and its relation to atonic dyspepsia was pointed out. The insomnia due to excessive use of tea, coffee, and tobacco was described; also that due to bodily and mental exhaustion. The appropriate treatment of the forms of dyspepsia, and of the sleeplessness resulting was fully dwelt upon. The insomnia due to over anxiety or prolonged loss of sleep—the “insomnia of bad habit,” was next discussed; while that form due to the presence of certain odors, and of defective hygrometric conditions of atmosphere was also treated. Remarks were made as to posture, and the condition of the cerebral circulation during sleep, and, lastly, the methods of treatment for the varying causes of insomnia were discussed at length.

Dr. Gairdner (Glasgow) doubted whether the indigestion were the cause of the sleeplessness. He rather thought the dyspepsia and the insomnia were due to a common cause.

ART. 34.—Neuralgia and Kindred Diseases of the Nervous System.

By JOHN CHAPMAN, M.D.

(*Neuralgia and Kindred Diseases of the Nervous System*, pp. 512.
London, 1873.)

The following is a summary statement of the author's theory, given in his own words:—

“(1.) That pain, whatever may be its exciting cause, and whatever may be the structure in which it is felt, is, like ordinary sensation, a phenomenon of functional change in the sensory centre into which the affected nerve is rooted.

“(2.) That the nature of the functional change denoted by ordinary sensation and the nature of that denoted by pain are essentially identical, the difference between the two being only a difference of degree of rapidity or intensity with which the change occurs.

"(3.) That pain, like ordinary sensation, is of various degrees of intensity, and that whereas pain denotes a more rapid functional change in the affected sensory centre than occurs during ordinary sensation, the successively higher degrees of intensity of pain are expressive of successively higher degrees of rapidity of functional change in the functioning sensory centre.

"(4.) That whereas an indispensable condition of those functional changes in the sensory centre which are comprised within what may be termed the ordinary sensory scale is a normal supply of arterial blood, in order to provide for those transformative changes which are at once chemical and nutritive, and which constitute the groundwork and possibility of functional change, so a supply of arterial blood greater than normal is an indispensable condition of those more intense functional changes in the sensory nerve centre comprised within the wide range of what may be called the neuralgic, or more generally, and perhaps more correctly, the *algic* scale.

"(5.) That pain is not necessarily a morbid phenomenon; that in its beginnings it is rarely, if ever, so in otherwise thoroughly healthy organisms; but that if, in such organisms, the operation of its exciting cause be long continued, it will induce in the affected sensory centre a habit of morbidly intense functional activity, so that at length, when that habit is generated, it will persist even after its cause is removed.

"(6.) That a neuralgic habit thus generated may be transmitted hereditarily; and that, though it may remain latent during a considerable time, it may be suddenly lighted up by some exciting cause, so slight as to escape observation, and thus constitute in the second generation what is sometimes designated spontaneous or idiopathic neuralgia.

"(7.) That the general doctrine expressed in the foregoing propositions in respect to pain is, *mutatis mutandis*, applicable to the several phenomena constituting the complications of neuralgia, which consist generically in disorderly actions of muscles, voluntary and involuntary, of morbidly excessive action of glands, and of disorderly processes of local nutrition."

The principles of "neuro-dynamic medicine" are thus stated:—

"(1.) That the chief function of the sympathetic nervous system consists in regulating the diameters of the bloodvessels throughout the body.

"(2.) That when the sympathetic ganglia are in a state of maximum hyperæmia, the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

"(3.) That when the sympathetic ganglia are in a state of maximum anæmia the nervous effluence from them to the coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become, consequently, extremely relaxed, and as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

"(4.) That when the spinal cord is in a state of hyperæmia, cramps of the involuntary muscles surrounding the alimentary tube; cramps, or even convulsions, of the voluntary muscles; an excess of glandular activity; and an excess of sensibility (hyperæsthesia) are likely to ensue.

"(5.) That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*), emerging from the cerebro-spinal system, and distributed to its secreting cells, in order to regulate its functional activity; and of another motor nerve (which I call the *negative motor*), emerging from the sympathetic system, and distributed to its artery, or arterial twig, in order to regulate its blood supply.

"(6.) That in the same manner as glands are supplied with positive, as well as with negative, motor nerves, so there is reason to believe every tissue of the body is thus supplied, and is thus placed and sustained in a state of eclectic affinity for the elements of the blood requisite for its nourishment and functions.

"(7.) That the sympathetic ganglia and the spinal cord can be rendered

hyperæmic or anæmic artificially, by means of heat in one case, and cold in the other, applied along the spine.

"(8.) That cold applied along the spine will subdue cramps or excessive tension of both voluntary and involuntary muscles, will lessen sensibility, will lessen secretion, and while increasing within certain limits the general circulation and bodily heat, is capable, by prolonged use, of lessening textural nutrition.

"(9.) That heat applied along the spine will (in some cases) induce cramps of the voluntary and involuntary muscles, will increase sensibility, will increase secretion, and will lessen the general circulation and bodily heat."

ART. 35.—*Treatment of Nervous or Sick-Headache.*

By P. W. LATHAM, M.D., F.R.C.P.

(*On Nervous or Sick-Headache: its Varieties and Treatment.* Pp. 71.
Cambridge. 1873.)

With regard to treatment, Dr. Latham says this should vary according to the stage of the disease. When the patient is suffering from disturbed sensation, such means should be adopted as will increase the flow of blood to the head, and this can be best accomplished by posture and stimulants. The patient should lie down with his head as low as possible on the side opposite to that on which the glimmering has appeared. A glass of sherry, or an appropriate dose of some one of the diffusible stimuli, should be administered. During the stage of headache, if this be severe, absolute rest and quiet are enjoined. Where the exciting cause of the attack appears to be an error of diet, an emetic or purgative may relieve the symptoms. The author has also used, with advantage, hydrocyanic acid, chloroform, bromide of potassium, aromatic spirit of ammonia, and cold tea. The remedies which he recommends to be given during the intervals of the attacks are cod-liver oil, the bitter and ferruginous tonics, and strychnia. He has also used guarana, but has found it to be useful only when administered early in those cases in which the premonitory stage lasts for some little time. Where, on the other hand, the headache is developed suddenly, it is, he thinks, far less efficacious than many other medicines.

ART. 36.—*Hysterical Anorexia.*

By Sir W. GULL, Bart., M.D.

(*British Medical Journal*, November 1.)

At a meeting of the Clinical Society of London, October 24th, Prescott Hewett, Esq., President, in the chair, Sir W. Gull read a paper on the above subject. He said that in the Address in Medicine delivered at the meeting of the British Medical Association at Oxford in August, 1868, and published at the time in the medical journals, he had referred to a form of disease occurring mostly in young women between the ages of fifteen and twenty-three, and characterized by extreme emaciation, and often supposed to be due to latent tubercle, mesenteric disease, or so-called atrophy. This state he proposed at the time to call *apepsia hysterica*, and added in a note appended to that address: "I have ventured to apply this term to the state indicated, in the hope of directing more attention to it." In the paper now brought forward, the word *anorexia* had been preferred to that of *apepsia*, as more fairly expressing the facts, since what food is taken, except in the extreme stages of the disease, is well digested. Dr. Laségue, of La Pitié Hospital, Paris, in April last published remarks on this state (translated into the *Medical Times and Gazette* of September last), which he also called *anorexia hysterica*. Dr. Laségue seems not to have known of the reference to this morbid condition which was made by the author of the paper at the time named; therefore Dr. Laségue's observations are the more confirmatory, having been made from an independent point

of view. The author believed that the want of appetite was due to a morbid mental state. He had not observed, in the special cases in question, any gastric disorder to which the want of appetite could be referred. He believed that the origin was central, not peripheral. It was notorious that certain mental states were apt to destroy the appetite, and it would be admitted that young women of the ages named were especially obnoxious to mental perversity. We might call the state hysterical without committing ourselves to the strict etymological value of the word, or maintaining that the subjects of anorexia hysterica had any of the common symptoms of hysteria proper. The author then gave details of two well-marked cases of this malady, with photographs of the patients in the stage of extreme atrophy, and after they had recovered their weight and strength. In the starvation stage, when the patients were for the most part brought for advice, all the functions were found to be below the normal standard, but otherwise normal. Temperature half a degree to a degree below normal; respiration 12; pulse 56 to 60. An examination of the viscera of the chest and abdomen discovered nothing texturally abnormal. In fact, the clinical characteristics were those of starvation only, without any signs of visceral disease. It was remarkable how long this condition often continued, and with how little change in the vital functions, the pulsations and respirations remaining at the low standard named for a year or two or more. Such patients, though extremely wasted, complained of no pain, nor indeed, of any *malaise*, but often were singularly restless and wayward, if the prostration had not reached its extremest point. In one case only had a fatal issue occurred, though sometimes the exhaustion was so great as to make possible recovery seem very doubtful. In this fatal case, thrombosis took place in the femoral veins; the patient became feverish, and died. Death followed from the thrombosis and the starvation only. The post-mortem examination discovered no tubercular or other lesion. The author insisted that the diagnosis of these cases was to be made from the slowness of the pulse and breathing, from the slightly depressed temperature, and the absence of any sign of visceral disease in the chest and abdomen; whilst the emaciation was explicable by the fact of chronic starvation. In reference to treatment, he contended that the patients require moral control; and that if possible, a change in the domestic relations should be made; that, from the beginning, food should be given at short intervals; and that patients should not be left to their own inclinations in the matter. If the exhaustion had reached an extreme point, then it might be necessary to apply external heat to the body, as well as to administer food; as Chossat had long ago shown that starved animals, when the inanition was extreme, could not digest food without the aid of external heat. One of the best ways of applying heat in such cases was that suggested by Dr. Newington of Ticehurst, by an India-rubber tube, having a diameter of two inches and a half, and a length of about four feet. This tube, filled with hot water, and placed in the bed along the spine of the patient, is often of great value. The author had not observed much advantage from the administration of drugs, whether tonics or alteratives. Believing the disease to be due to a want of mental equilibrium, he would rather trust to moral influences and to feeding than to medicines, though these might still be amongst the *adjuvantia*.

Dr. Quain was very glad Sir William Gull had brought forward this subject, for these were cases with which he (Dr. Quain) had been long familiar, and which he thought of great interest. His experience, however, differed from Sir William Gull's in this respect, that some of the cases he had seen were more severe than those narrated in the paper, and he saw no evidence in some of them to connect them with a merely nervous origin. In fact, the words "anorexia hysterica" were but names. He narrated one case which he regarded as typical. Some years ago, a young lady who was gradually losing all inclination for food was sent to him from Lancashire. The disinclination for food progressed, and became so great that at last she altogether ceased to take food. She was an amiable girl, and by no means of a nervous temperament. She became so reduced, that in appearance she resembled nothing so much as one of the mummies in the British Museum. The skin of the front of the abdomen became so sunken that it reached the backbone; the abdomen contained

almost nothing; and the bones everywhere seemed covered with skin only, a bed sore exposing the sacrum. She lost all power of voluntary movement, and at length became insensible. Under the persevering use of essence of beef-tea, flavored with cloves to resemble medicine, with the brandy mixture of the *Pharmacopœia* in the intervals, she rallied and recovered. After a time, a slight relapse occurred; from which she again recovered. A few months ago, Dr. Quain was consulted with regard to her marriage, she being then in perfect health. Now that, which was the worst case of the kind witnessed by Dr. Quain, for which reason he had narrated the particulars, could not be called "hysterical;" there was simply a loathing of food. Dr. Quain had always looked upon these cases as due to some local condition of congestion of the mucous membrane, and was inclined to consider the real cause as peripheral rather than central.

Dr. Greenhow mentioned two cases in which he had been consulted; and in his treatment always insisted upon the necessity of making an alteration in the moral surroundings of the patient. Called to see a young lady at St. Leonards, emaciated to the last degree, he had at once arranged for her removal from home to the house of a private family near London, where the whole course of her daily life was changed. She shortly began to eat, and in six weeks was well. She had a relative who was of unsound mind. Dr. Greenhow's second case came of a family in which insanity existed. The girl was greatly emaciated; but, upon being removed to the house of a doctor, she at once improved. She then returned to her family, and had a relapse; but, upon removal from home, again recovered. From the day that the moral surroundings were altered, she became better. The moral management of these cases is to be insisted upon; medical treatment is of little use.

Mr. Brudenell Carter had, many years ago, witnessed the great success which attended the late Mr. Mackenzie's treatment of these cases by the taking of them from home, and therefore advocated the moral management of the patient. The beginning of the disease is a desire to obtain sympathy from friends; for this purpose, some repulsive idea is conjured up by the fancy when food is presented, so that it is set aside with abhorrence. In one case which had come under Mr. Carter's observation, the patient always thought of putrid cat-pudding when pressed to eat; thus food caused her to vomit, and she gained her own way. At length, however, the vomiting beat her; then she became frightened, and gave in, confessed how she had caused the dislike for food, began to eat, and recovered.

Dr. Poore inquired if any of the symptoms proper to starvation were present in any of the cases. It would be remembered that, in the case of the Welsh fasting girl, when the patient was watched and food was really withheld, she soon became restless, her temperature and pulse rose, and she had fetor of the breath.

Dr. Symes Thompson thought it difficult to draw a line between these cases and certain cases of insanity in which disinclination for food is a prominent symptom. A patient, about whose sanity he had been consulted, was put under restraint and sent to Bethlehem Hospital, as otherwise she would have starved herself to death. She at once improved, and after six or eight weeks was sent home. She became worse, and finally succeeded in starving herself to death. Starvation is often, as in such a case, the most manifest sign of insanity. Dr. Thompson considered that there was no symptom of hysteria in the cases they had discussed; the malady was more mental than physical.

Dr. Greenhow stated that, in both the cases attended by him, there was restlessness at night, but the temperature and pulse were not elevated. There was no mental alienation in either case; but simply a disgust for, and inability to take food.

Dr. Theodore Williams thought Sir William Gull's cases exhibited disease of the mind rather than disease of the body. He asked whether the introduction of food into the patient's stomach against her will would fatten the body? Is fattening of the body possible against the patient's will? He advised recourse to the use of nutrient enemata in extreme cases.

A member narrated the case of a young lady whose tastes varied; at one

time she exhibited a great aversion to Bibles, then she passed on to show a strong dislike to food. She had none of the ordinary symptoms of hysteria, and seemed to require no sympathy. Her father had died "out of his mind," as it was said.

Dr. Edis spoke of a young lady who had lost a dear relative, and had disgust for food. She was accounted insane, and was sent to an asylum. Refusing food at the asylum, she was nourished with enemata. At first she seemed apathetic, but soon began to take a little food by the mouth, and quickly recovered. Removal from friends, and perhaps the giving of enemata, are chief points in the treatment.

Dr. Quain begged to mention another case, one of the earliest he had seen, in which this loathing of food existed, and which, after the patient had been reduced to a state of extreme emaciation, was relieved by a copious discharge of fluid by vomiting and diarrhœa. The recovery in that instance dated from that event, and seemed to show that it was due to some relief of congestion by this spontaneous discharge. In some of these cases no special sympathy was sought for by the patients; they greatly desired to get well. It was not that they would not, but they could not, take food.

Sir William Gull would not insist on the etymological meaning of hysteria, in applying that term to these cases. The nervous equilibrium of the patient is not quite right. Still, it would be unfair for the doctor to go into the world and say that they are of unsound mind. Some of the patients certainly had other symptoms of hysteria. Sir James Paget had seen one of the cases after her recovery from anorexia, and she was then suffering from hysterical hip-joint. The disinclination to take food seemed to be due to some vagary of the pneumogastric. Many nerves of the trunk may take on hysterical action without much damage to the individual, but when the pneumogastric is so affected the results are serious. It is evident the patient must be prevailed upon to take food by some means or other. There seems to be some hysterical condition of the pneumogastrics which Sir William Gull considers to be of central origin. There is no congestion of any part: the tongue is clean, urine clear. Then, as to the evidences of starvation, the Welsh fasting girl died not of starvation but of urinæmia, after being deprived of drink for six days. Had only water been allowed her, she would have lived much longer. Without air, an individual lasts about four minutes; with air, but without food or water, he lives about eight days; deprived of food only, he lives for forty or fifty days. The cases which Sir William Gull had described were not strictly insane; there was, however, something wrong in the nervous equilibrium, and usually something queer in the family history.

ART. 37.—*On Progressive Locomotor Ataxia.*

By W. B. DRINKARD, M.D., Professor of Anatomy in the National Medical College, Washington.

(*American Journal of the Medical Sciences*, July.)

Dr. Drinkard is of opinion—

1st. That strychnia offers at least as much chance of amelioration in locomotor ataxia as any other remedy that has yet been tried in this disease, and that its benefits may be more promptly and decidedly obtained by the hypodermic method than by its internal use. Moreover, the tolerance exhibited to the use of the drug, verified by his own experience and by the numerous recorded instances of its employment in ophthalmic practice, justify him in thinking that the amount may be increased far beyond gr. $\frac{3}{4}$ twice daily, and with proportionate increase of beneficial effect.

2d. That without denying to morphia, especially as administered hypodermically, its place as the sheet-anchor in this terrible disease, whose frightful and characteristic pains will yield to nothing else apparently, we must yet be even more on our guard in administering it than we usually are. For even if there be not a special tolerance of opium and of all sedatives and narcotics in loco-

motor ataxia, as there probably is of strychnia in this and other conditions of nervous tissue-change, the severity of the pain itself may increase its toleration, and encourage the continued use of larger and larger doses; until, finally, relief can only be obtained by an amount conceivably incompatible with life, or the patient sinks, killed as much by the drug as by the disease.

ART. 38.—Notes of a Case of Duchenne's Pseudo-Hypertrophic Muscular Paralysis, with Special Reference to the Temperature of the Overgrown Limbs, and with General Remarks.¹

By WILLIAM MILLER ORD, Assistant-Physician to St. Thomas's Hospital.

(*The Lancet*, Nov. 8.)

The patient, a child of seven years, had suffered for two years from progressive weakness of the back and lower limbs, of which no exciting cause was known. There was no impairment of the mental faculties, but the child constantly fell while walking, and could not get up again without seizing some firm support by the hands. The sacro-spinal muscles and the muscles of the thigh were thin and poor, but the calves were distinctly overgrown. The observation to which attention was specially directed was, that the calves were distinctly warmer than the thighs by from 1.9° to 3.9° Fahr. The fibres of the muscles, being removed by an *emporte-pièce*, show no material deviation from a healthy structure, certainly no degeneration; but there appeared to be an increase of the white fibrous element between the primitive fasciculi. It was suggested by these facts that the disease was in a very early stage, and that vaso-motor derangement, probably paralytic, played a great part in its production. The diseases called "progressive muscular atrophy of childhood" and "infantile paralysis" were compared with the pseudo-hypertrophic paralysis. It was noted that, whereas in the former of these a definite wasting of certain parts of the cord had been demonstrated by Dr. Lockhart Clarke and Dr. Bastian, no morbid appearances had been detected in the brain or spinal cord characteristic of the pseudo-hypertrophic paralysis. It was inferred from these and other considerations that the origin of the disease must be looked for in the sympathetic or ganglionic nervous system. No affection of sensation was detected in this case; and the one morbid condition was the gradual weakening of the muscular power in the lower half of the body generally, associated with the hypertrophy of the calves. This was regarded, not as a true hypertrophy of muscle due to excessive use, but as an overgrowth of interstitial connective tissue due to hyperæmia.

ART. 39.—On the Treatment of Rheumatic Facial Paralysis by Electricity.²

By M. CONSTANTIN PAUL.

(*Gazette Hebdomadaire*, No. 32, 1873.)

The author declares against the tendency of specialists to resort to one of two camps in their opinions concerning the treatment of this malady. Some employ but faradization, others but galvanism. Each of these two methods has its special indications, which vary with the periods and the forms of the malady.

In the first stage of facial paralysis, faradization, as well as galvanism, provokes muscular contraction at the periods of opening and closing the circuit. Nevertheless, faradization seems to be the best method to employ at this period.

In the second period, that is to say, at the end of eight or ten days, faradi-

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, October 28.

² Communicated to the Société de Thérapeutique, Paris.

zation no longer excites contractions; galvanism, on the other hand, retains its power, and is even more energetic on the paralyzed than on the other side. The passage of the continuous current causes no contractions. In this stage M. Paul employs galvanism.

One may now have recourse to continuous or interrupted currents.

Remak advises, in cases where one wishes to employ continuous currents, numerous elements united by their opposite poles, and with a feeble chemical power. M. Paul prefers large elements, like those of Daniel, for example; but, thinking that it is necessary to render electricity an agent that can be as readily used by all practitioners as steel or quinine, he employs Calot's pile, which can be readily employed, and the price of which is moderate.

The capital point in the employment of these apparatuses is the application of the poles, especially the negative one.

The negative pole causes more pain than the positive; it produces redness of the skin, and sometimes urticaria and even vesication. These accidents may be readily avoided by taking care not to apply the metal directly to the skin. The important point is, that the negative pole increases the muscular irritability, which is diminished at the positive pole. It is necessary, then, to apply the negative pole over the muscle to be galvanized, at the level of the motor nerve; the positive pole should be placed as far as possible from the negative over the course of the nerve.

The number of elements to be employed should vary with the sensibility of the patient; generally, one ought to employ more elements at the commencement of the sitting than towards the end.

It is probably a good plan to change the course of the current. It is well known that telegraph-wires become weak if despatches are passed but in one direction. M. Paul believes that uniformity in the direction of the current has a like action on nerves.

The constant current may be passed for from two to five minutes, it should then be interrupted and the points changed. The whole sitting may last for ten or fifteen minutes.

By this treatment may be restored, first, the muscular tonicity, then the voluntary movements, finally, the faradic power.

Such is the method of employing continuous galvanism. If interrupted galvanism be applied, it is rather for its tonic than for its exciting action. Its use ought not to be prolonged.

When, at the end of the second period, the faradic power has returned, M. Paul proposes that galvanism and faradization should be employed simultaneously. The two poles of a faradic current are placed between the two poles of a constant galvanic current applied in the manner described above. Faradization thus acts during the electrotonic state produced by galvanization. This continued mode has been employed in Germany.

The third period of facial paralysis is characterized by total loss of muscular tonicity, retraction of the healthy side, absolute loss of voluntary contractility, and atrophy of the muscles. At this period neither galvanic nor faradic currents exert any action.

In the treatment of this period, M. Paul has been encouraged by several data of experimental physiology: considering that the muscles of the face retain their activity after section of the facial; that after section of the nerves the muscular bundles are still contractile under the influence of galvanism; and finally, that nerves may be regenerated after crushing; M. Paul has sought to obtain from galvanism at this advanced period of facial paralysis a certain degree of tonicity and momentary contraction which might diminish the duration and facilitate the articulation of words. In an advanced case, the continuous currents of Remak were employed with success; the effects of such currents being, as is well known, to induce hyperæmia of muscles.

ART. 40.—*The Pia Mater as a Coat of the Cerebral Vessels.*¹

By J. BATTY TUKE, M.D.

(British Medical Journal, Oct. 11.)

Dr. Tuke illustrated his paper by a series of microscopic preparations, in which he expressed his opinion that the so-called hyaline membrane on the arteries of the brain is really the normal sheath of the vessel thickened by disease. He alluded to the statement of Rindfleisch that the cerebral arteries do not enter naked, and showed specimens in which he believed he could trace a thickened pia mater gradually fining off into a purely hyaline membrane as it penetrated the deeper portion of the brain. He also exhibited specimens in which a distinct membrane could be traced apart from the vessels, lying in vascular tracts from which the other coats had been removed. With regard to the hyaline membrane of the vessels of the pia mater, he coincided with the opinions of Gull and Sutton as to its existence, but not with their theory of its formation, as he had found it constantly in cases in which no disease of the heart or kidneys existed. He believed it to be due to a thickening and opacity of the pia mater immediately investing the vessels, caused by hyperæmia; that it was brought more prominently into view by the employment of reagents, but that it could be seen without their use; that where it could be demonstrated in the pia mater, it could be traced by careful dissection passing inwards as a sheath; and that it could be more easily found in cases of disease than in healthy subjects. The general tenor of the paper was to indicate the existence of an anatomical sheath of the cerebral arteries, formed by an extension inwards of the tomentum cerebri, supporting the views of Lockhart Clarke and Robin.

ART. 41.—*On the Diagnosis between General Paresis and Progressive Locomotor Ataxy.*

By W. H. O. SANKEY, M.D. Lond., F.R.C.P., Lecturer on Mental Diseases at University College.

(British Medical Journal, September 20.)

The differences may be arranged in a tabulated form, as follows:—

<i>Paresis</i>	<i>Ataxy</i>
Runs its course in a few years.	Is much slower usually, and may last ten or even twenty years.
Commences with mental symptoms.	Commences with pain in a distal nerve.
Is attended with libidinous ideas.	Is attended with absence of sexual feeling.
The motor symptoms are secondary in the order of time.	The motor symptoms are the primary phenomena.
Is only rarely complicated with pelvic difficulties.	Pelvic symptoms are a prominent feature.
There often is great violence.	The mental phenomena are imbecility and impaired memory.

ART. 42.—*Morphia in some Cases of Insanity.*¹

By W. J. MICKLE, M.D.

(British Medical Journal, Oct. 11.)

The object of this paper was to exemplify the influence exerted by tonic and stimulating doses of morphia on certain subjects of melancholia. Mode-

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

rate but continuous stimulation was aimed at, and therefore small or medium doses were given, and their action was sustained for prolonged periods. Though there was nothing new in the plan of administration followed in these cases, yet it was highly different from the method frequently adopted, of making gradual increments to the doses, until large quantities of opium or morphia were taken daily, at the risk of deteriorating the mental and physical powers, and of inducing an unnatural craving for the drug to relieve the depression flowing from the abuse of so powerful a neurotic. Insanity had usually become firmly established for some time in the cases dealt with in the paper, and the patients were unpromising subjects for treatment. They suffered from chronic melancholia, either of a quiet character, the patients being sorrowful, cast down, and displaying the usual aberration of thought and will; or, secondly, they also exhibited some excitement, moroseness, and disposition to occasional impulsiveness or violence. For sake of comparison, ten of each class were selected, as nearly as possible of similar ages and conditions of life, and all of the male sex. The bodily and mental health of the quiet melancholics, and the bodily health of the more irritable patients, were benefited, in the aggregate, in nearly equal degrees; but the mental state of the latter was, on the whole, ameliorated to a far less extent. The changes noticed in the various mental symptoms of the whole number during treatment were discussed under several heads. Moroseness, irritability, and impulsiveness, when they existed, were, though improved in some cases, frequently less benefited than the other phases of aberration, and, indeed, were occasionally aggravated by morphia. An explanation of this was suggested by attention to the variations in the physiological effects of the alkaloid in different individuals. The action of the particular treatment on nutrition and on the digestive organs was given in outline, and cases were mentioned illustrative of the relief obtained by previously inducing the action of bromide of potassium, in persons in whom gastric derangement, faintness, etc., were apt to follow the administration of opiates. In the last place were mentioned the general conclusions derived from an investigation into the influence exercised by morphia, in certain doses, on the morning and evening pulse and temperature of a number of the patients. The writer admitted that no very striking curative operation could be attributed to the course of morphia prescribed in the twenty cases on which the paper was based; but the physical health was much improved in the aggregate, while the mitigation of distress, and of other phenomena of mental aberration, was not inconsiderable. Females were referred to whose recovery seemed wholly to depend on morphia given in the same way; improvement ceasing again and again when the latter was experimentally omitted, but returning under the revivifying influence of the alkaloid, when its use was resumed.

ART. 43.—*Is there such a Disease as Acute Primary Mania?*¹

By W. H. O. SANKEY, M.D.

(*British Medical Journal*, Oct. 11.)

Dr. Sankey criticized the plan generally adopted by writers on insanity, of making some prominent feature arising in the course of a case the chief feature in its description, without regard to what has gone before or what may follow. Examples of this were found in the use of the terms emotional, identical, impulsive, and intellectual insanity; puerperal mania, phthisical mania, etc. He regarded this as an unnecessary departure from the ordinary rules of pathology. Regarding acute mania as a primary disease, he said that in his experience of twenty years he had not been able to find anything agreeing entirely with the descriptions of it. The cases which had come under his notice as alleged instances of acute primary mania were: 1. Cases of general paresis in what the French call the expansive stage. 2. Secondary attacks of recurrent insanity.

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

He concluded by saying that, if it be the fact that no case of insanity commences as mania, the name should be expunged from the list of diseases, and used only as a term for a symptom or series of symptoms; and, if it be true that no primary case commences with violence, the knowledge of the fact becomes highly important in a medico-legal point of view.

ART. 44.—*The Delusions of the Insane; their Real Value as a Means of Diagnosis.*¹

By J. G. DAVEY, M.D.

(*British Medical Journal*, Oct. 11.)

This paper was written to prove that insanity may, and oftentimes does, exist both with and without delusions; that, even in the worse, as in the mildest forms of the disease, the presence or the absence of delusions can matter but little as a means of diagnosis; that delusions in the insane are simply the effects of a pre-existing and abnormal state of the ever active affections. Cases of madness, the author affirmed, are seen of long standing, and, in every sense, confirmed and irremediable; yet, during their whole course, from beginning to end, nothing like delusions appear. It was shown that these views have an important bearing in a medico-legal sense.

ART. 45.—*Some of the Causes of Idiocy and Imbecility.*¹

By J. LANGDON DOWN, M.D.

(*British Medical Journal*, October 11.)

Following up his inquiries into the history of two thousand cases of idiocy which had come under his observation, Dr. Down found that 24 per cent. were first-born children. He regarded two causes as potential in these cases: (1) pressure on the cranium; (2) suspended animation from retarded labor. He also attributed something to the more exalted emotional life of women during their first pregnancies. Among primiparous idiots, one-fourth had been born with suspended animation. While the ratio of sex among idiot primiparæ was 3 males to 1 female, the ratio of those born with suspended animation was 5 males to 1 female; indicating the influence of the increased size of the male cranium over the female. He pointed out that there is less danger to the mental future of the child in the timely use of forceps than in allowing a lingering labor. Three per cent. of the idiots had been delivered by forceps, and 2 out of the 3 per cent. were born with suspended animation, probably from the use of the forceps having been too long delayed. Disparity in the ages of the father and mother did not appear to be very productive of idiocy. In 7 per cent. only was there a disparity exceeding ten years. In all the cases, the father was the senior. Four per cent. of the issue were males, and 3 per cent. were females. Five per cent. of idiots had fathers who were above 50 at the time of their birth, and the male progeny were the most influenced, 4 per cent. being male and 1 per cent. female. A much more potent cause was found to be the neurotic condition of the progenitors. In 45 per cent. there were well-marked neuroses, in one or both families. If the neurosis were marked on the maternal side, the first children were the most affected. If the neurosis, on the other hand, were paternal, he found that it was the later born children that were affected. He related several cases that had lately come under his notice, where the father had died from locomotor ataxy and general paresis. In these cases, the early members of the family were mentally vigorous, while the last born were idiotic. The result was shown to be more perilous to the offspring of those where the neurotic tendency was on both sides of the progenitors, and it was this circumstance which caused the danger in marriages of consanguinity.

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

ART. 46.—*Cerebro-cardiac Neuropathy.*¹

By M. KRISHABER, M.D., Paris.

(British Medical Journal, August 30.)

This communication was taken from a work which the author is about to publish on an undescribed nervous malady. The description was founded on an analysis of thirty-eight cases. The constant symptoms were described to be: 1, disturbances of sensation, characterized by false perceptions and general and very intense hyperæsthesia; 2, disturbances of locomotion, manifested in the abolition of equilibrium from vertigo, paralysis, or paresis; 3, disturbances of the circulation, consisting in extreme irritability of the vascular system, palpitation, dyspnoea, syncope, and sometimes angina pectoris; 4, secondary disturbances, varying in individual cases.

ART. 47.—*Paralysis of Motion and Sensation in the Hand and Forearm from Local Contact with Red Iodide of Mercury.*

By A. W. FOOT, M.D., Physician to the Meath Hospital.

(Dublin Journal of Medical Science, Sept.)

Dr. Foot relates a very characteristic case of the local effects of mercury, under the care of Dr. George B. Cooksey. A herd, aged twenty-three, of sound constitution, was admitted into the medical wards, 10th April, 1871, with loss of motion and sensation in the right hand and forearm. On the 13th March, a little more than three weeks before admission, he had rubbed a quantity of red mercurial ointment, as cattle blister, into three head of cattle who were affected with pleuro-pneumonia. He had been in the habit of rubbing this ointment into cattle all through the winter, but on this particular occasion he neglected the precautions adopted on former occasions. He had been accustomed to cover his hand with a bladder, and afterwards wash the hand with soap and warm water; on this occasion the bladder became frayed away, and the lather of sweat and mercurial ointment came in direct contact with his hand; he did not think it worth his while to get a fresh bladder; he also on this occasion only rinsed his hand in cold water. Next morning, on waking, he found his right hand "numb-like," "as if it was asleep;" as he went to his work across the hills he dipped it into a brook "to waken it," and slapped it against his other hand, but it remained numb and powerless. He had two blisters applied, one above, the other below the elbow, and then sought admission into hospital three weeks after the occurrence. The condition of the right hand was one of weakness rather than of complete paralysis, for although he could not "grip" with it, the dynamometer showed a power of $13\frac{1}{2}$ kilos. in the right hand, against 30 kilos. in the left hand. He could not flex, extend, abduct, or adduct the hand; he had a stinging sensation in the fingers; the deltoid was not affected, nor the muscles of the upper arm; there was no atrophy. He was ordered iodide of potassium in 5-grain doses twice a day, and subcutaneous injections of the liquor strychniæ, B. P., to be made in the right forearm; the $\frac{1}{16}$ th of a grain was the amount of strychnia at first used, subsequently the $\frac{1}{32}$ d, every second day. On one day only was any tremor observed in the affected parts. 15th April, right hand = 14 kilos., left hand = 34 kilos. 22d April, as he felt a pain in the right forearm from the elbow to the wrist, along the course of the median nerve, the injections of strychnia were discontinued, and the primary induction current of Stöhrer's battery was from this date employed daily. He quickly improved under the use of this battery, and before long had perfectly recovered the full power and use of his hand and forearm.

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 48.—*Treatment of Spasmodic Asthma by Chloral.*

By C. T. WILLIAMS, M.D., F.R.C.P.

(The Lancet, Oct. 25.)

At a meeting of the Clinical Society of London, October 10th, Dr. Williams brought forward three cases of spasmodic asthma treated by chloral. The first was that of a married woman, aged twenty-three, from the Isle of Man. Various remedies had been tried in vain. On her arrival in town, Dr. Williams did not at first pursue active treatment, hoping that the change of climate might give relief. The fit, however, coming on as usual, chloral was given in twenty-grain doses. After the first dose she fell asleep for an hour; after the second she slept a whole night; and a few more rendered her breathing quite clear. The drug was then omitted, and the patient remained free from asthma for more than a week. The second case was that of a lad, aged sixteen, who had been subject for six years to attacks occurring once a week and lasting three days. Chloral was given during a severe paroxysm, with the result of causing sleep and immediate relief to the breathing. He remained in the Brompton Hospital free from attacks, in spite of several threatenings of dyspnoea, which were always averted by the timely administration of chloral. The third patient was an unmarried woman, aged twenty-seven, with a history of asthma of two years' standing; the attacks occurring every morning, lasting two or three hours, and often recurring in the forenoon. During a very severe one, which occurred in the Brompton Hospital, a variety of drugs were tried with little effect. Chloroform inhalation gave some relief, but caused cardiac intermission. Hypodermic injection of morphia did good, but her increasing lividity precluded its continuance. Chloral was then given in twenty-grain doses, and the first dose induced slumber and easy respiration. The drug was continued in smaller doses for upwards of two months, during which time the attacks seldom recurred, and, when they did so, were extremely mild. Once the chloral was omitted, and the asthma immediately returned, but ceased on resuming it. All the cases were complicated by catarrhal symptoms, and in the third case there was considerable emphysema, which diminished during the patient's stay in the hospital. Biermer, of Zurich, had already used chloral extensively in these cases. Dr. Theodore Williams's own experience, founded on upwards of twenty cases, was decidedly favorable to the use of the hydrate of chloral in spasmodic asthma. In only two cases had any untoward symptoms arisen.

Dr. Reginald Southey remarked that most cases of asthma showed a nervous or hysterical temperament, and that if the disease depends distinctly on a neurosis, the drug acted as a stimulant, and so did good. In one case that had come under his notice, nitrite of amyl was decidedly beneficial, though the effect was only temporary.

Dr. A. P. Stewart, in complimenting Dr. Williams on his paper, observed that chloral hydrate was a very uncertain remedy, that it sometimes caused great and alarming depression of the circulation, and usually extreme irritation, with affection of the eyes, etc. He (Dr. Stewart) believed rather in the efficacy of large doses of bromide of potassium, which, in his opinion, was a less perilous remedy than chloral hydrate.

Mr. Nunn asked Dr. Williams if any of his cases were due to special diet, and remarked that various articles of food, as rice, will in some persons cause symptoms akin to suffocation.

Dr. Williams, in replying, did not agree with Dr. Southey as to the stimulant properties of chloral, demurred to the dangers attending its administration indicated by Dr. Stewart, and thought it a safe remedy, inasmuch as very few fatal cases resulting from its use are recorded, although it is now well known as a domestic medicine. He believed that the cases recorded in his paper were due, not to dietetic, but to climatic causes.

ART. 49.—*Remarks on Nitrate of Potash in Acute Pneumonia.*

By H. MACNAUGHTON JONES, M.D., M.Ch., F.R.C.S.I., L.R.C.S.E.;
Extraordinary Physician, Cork Fever Hospital.

(*Dublin Journal of Medical Science*, July.)

The treatment of acute pneumonia being so often and so hotly made the subject of dispute, Dr. Jones brings the notes of some few cases under the notice of the profession, selected out of a large number which, from time to time, it has fallen to his lot to treat. Of late he has treated nearly every case which he has seen in the earlier stages of the disease with nitrate of potash, in ten and fifteen grain doses, repeated every third hour, until it produced its peculiar effect on the temperature and pulse. He combines at times with it gr. j of hippo and gr. j of antimonial powder.

Dr. Jones states that he has had cases in which he has given up the nitrate of potash and resorted to quinine or digitalis, from complications which prevented its continuance, and some in which, the pneumonia being a secondary affection, it was of course excluded. Regarding the accompaniments of this treatment, diet and local measures to the lung, Dr. Jones leans entirely to a free and generous support, and rather to the side of the stimulant system than the contrary. Many object to the employment of counter-irritants and vesicants in pneumonia. The author says that his practical experience enforces on him the great value of these measures, and, in the history of the cases recorded, this course was adopted in all with the best results. He finds nothing so soothing as the linseed warm cataplasms kept constantly over the inflamed lung, more especially after vesication. These are his sole applications (*linseed poultices*) in the very early stage of the disease, but he believes nothing hastens resolution like a free vesicant, the surface then dressed, and all being covered with a linseed poultice, kept constantly warm.

ART. 50.—“*Rest*” in the Treatment of Consumption of the Lungs.

By I. B. BERKART, M.D., M.R.C.P.L., Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, and Physician to the Training Hospital, Tottenham.

(*The Lancet*, Oct. 18.)

The failure in the treatment of phthisis is, Dr. Berkart thinks, mainly due to the existing uncertainty of its pathological conditions. The object he has now in view is to call attention to the beneficial influence which diseased lungs must experience from rest, a therapeutic agent the value of which has long since been recognized in all departments of medicine. He refrains from discussing the pathology of phthisis, and from pronouncing in favor of the one or the other of the current doctrines, in order not to give rise to an erroneous impression that rest is only applicable in the treatment of phthisis of a certain kind. At all events, if diseased lungs benefit by being excluded from the respiratory movements for some time, it is indifferent whether a catharral or a parenchymatous pneumonia has been the starting point of the disease.

As the basis for the consideration of treatment, he assumes “a pneumonia” which may completely subside without leaving any traces of its former existence, but which in the majority of instances leads to destruction of the pulmonary tissue. He thus leaves it undecided whether the cheesy masses and the tubercles are to be considered the causes or the results of the pneumonia. Frequently, however, after such a pneumonia masses of cirrhotic tissue are found in the lungs, associated or not with cheesy transformation of some portions of the lungs, and this cirrhotic tissue appears to be the product of a natural tendency towards repair.

At present there are no means of preventing this pneumonia, although there

is reasonable hope that the careful avoidance of all those circumstances which are now considered to be exciting causes of phthisis may be followed, in the course of time, by a numerical decrease of the disease. We are consequently brought face to face with the disease itself; and we must aim either at a complete subsidence of the pneumonia, or at least at the formation of a permanent connective tissue—the above-mentioned cirrhotic masses. And although this last termination of the pneumonia is by no means indifferent to the subsequent functional activity of the lungs, it is, under the circumstances, the most favorable *quoad vitam*.

Daily observation furnishes direct proofs that rest exercises a most beneficial influence in the affections of the lungs. Thus, in the case of fracture of the ribs and laceration of the lungs, accompanied by hæmoptysis, hæmothorax, etc., surgeons can state with great satisfaction that "it is surprising what an extent of injury may take place in this way, and yet no serious consequences ensue;" and indeed such satisfaction must be the greater since they may ascribe to their treatment the favorable results obtained.

Another point which may be adduced in favor of rest is the fact that the vast majority of out-patients, before applying at the hospital, have worn plaster over the painful part of the chest. Dr. Berkart has, as a rule, found the patients more or less eloquent on the relief which they thus obtained. He has taken some pains to examine the ingredients of these plasters, and has found them to be composed of inert substances. Now, that beneficial effect can only be attributed to the relative immobility and the consequent rest of the painful part, and indeed a piece of adhesive plaster invariably produces the same effect.

He is also inclined to think that the value of compressed air in the treatment of phthisis principally consists in the rest which the lungs derive from it. Although rest to the lungs produced by means of bandages and strapping cannot aspire to the same results as the compressed air-bath, it can nevertheless confine the work to be performed to the comparatively healthy parts, and exclude from it the inflamed portions, which are, after all, useless for the respiratory function.

It is left to the ingenuity of the practitioner to produce the immobility of the lungs by strapping and bandages. Dr. Berkart has only made use of strips of adhesive plaster, and they have invariably answered his purpose.

He states that he has never seen any inconvenience to arise from it. On the contrary, patients who complain of pain in the chest immediately feel relief after being bandaged, and they declare that they can now breathe more easily. The frequency of respiration diminishes, so do the intensity of the cough and the quantity of the expectoration. With regard to physical signs, Dr. Berkart is confident that these also give evidence of improvement.

He does not consider rest as a "specific" in the treatment of phthisis, but only as a valuable adjuvant; and if we do not expect from it more than it can reasonably do, we shall, he thinks, not be disappointed in employing it.

ART. 51.—On Iodide of Mercury in Pulmonary Phthisis.

By Dr. BRACHATTI, of Larnaca.

(*Gazetta Medica delle Provincie Venete*; and *The Lancet*, Oct. 25.)

Dr. Brachatti of Larnaca prescribes the above salt, combined with oxymel of squills, in the various stages of phthisis. The usual dose is one-sixth of a grain for an adult; for children he uses it in the shape of pills; one-fourth of a grain is divided into eight pills, and one or several pills are administered according to age.

¹ Erichsen, *Science and Art of Surgery*, vol. i. p. 267.

ART. 52.—*Pulmonary Hemorrhage as a Cause of Consumption.*

By J. MAGEE FINNY, M.D.

(British Medical Journal, July 5.)

At a meeting of the Medical Society of the College of Physicians of Ireland, April 9th, Dr. J. Magee Finny introduced this subject by reading an account of three illustrative cases:—

CASE 1.—Miss F., aged eighteen, a member of a delicate family, but hitherto in good health, coughed up some blood on July 9th, 1869. Hemorrhage recurred on the 11th and 12th, and for nine days black sputa continued to be expectorated. On the tenth day, the temperature rose to 103° , near which point it continued till shortly before death. At the time the bleeding occurred, physical examination discovered a slight moist râle over the lower portion of the left lung posteriorly, without any sign of consolidation. After six days, dulness was noticed in the situation with tubular breathing and bronchophony. The lung disease now made rapid progress, softening occurred, cavities formed, and in eight weeks the patient was dead.

CASE 2.—Miss M., aged twenty-two, unmarried, two days before her monthly period, had moderate hæmoptysis. Black sputa continued to come up for ten days. After five days, symptoms of an attack of pneumonia, including a crop of herpes labialis, supervened, and there were the physical signs of consolidation of the base of the left lung. On the seventeenth day, resolution seemed to set in, but in five days fresh symptoms appeared, the temperature rising to 101.5 and 103.4° . The patient now sank slowly but surely under the influence of an increasing pulmonary affection, and died forty-four days from the first hemorrhage.

CASE 3.—A medical student, aged twenty-one, had always enjoyed good health. While shooting, in the grouse season, he took a difficult leap, and came down heavily on his feet. Almost instantly he coughed up some bright blood. In a few days, pneumonic consolidation of the lower lobe of the right lung was detected. Partial resolution followed, but under depressing treatment inflammation again lighted up, and throughout the whole right lung consolidation, softening, and abscesses followed in quick succession. The patient died within five months from the initiatory hæmoptysis.

These three cases coincided in the following points: 1. In none of them did the lungs exhibit any signs of previously existing disease before the hæmoptysis occurred. 2. The patients were all young and healthy. 3. The bleeding took place unexpectedly, and suddenly. 4. After a few days pneumonia, at first lobular, then lobar, with high fever set in, and from its effects the patients seemed to die at varying intervals. As explanatory of the initiatory hemorrhage, Dr. Finny said any one of three views might be held; first, that there existed in these otherwise healthy and to all appearances sound individuals, prior to the occurrence of the hæmoptysis, a diseased state of the walls of the arteries of the lung (Williams); second, that tubercles, deposited in the lung, and lurking there for an indefinite period, produced the bleeding (Laennec); and third, a view—much more simple than either of the former—that under some undue exertion on the part of the patient, there occurred an accidental rupture of some bloodvessel, either bronchial or pulmonary; excluding the pulmonary aneurism of Rokitsansky and of Rasmussen of Copenhagen. The last supposition appeared to the author to apply to the hemorrhage in the cases brought forward by him, in all of which the bleeding would fall under the head of some one of the three classes of congestive hemorrhages described by M. Trastour. The cases, indeed, went to prove the truth of Niemeyer's dictum *phthisis ab hæmoptoë*; but against the exclusive application of this theory he (Dr. Finny) would set his face. The result of a primary pulmonary hemorrhage might vary much in different cases. Thus, if all the effused blood were expectorated from the lungs, probably no evil consequences would follow. Again, the presence of the scrofulous diathesis in an individual, the subject of pulmonary hemor-

rhage, was a most important factor. The summing up of the whole matter amounted to this, that pulmonary hemorrhage might play a most serious part in producing consumption in previously healthy lungs, or in hastening the fatal termination in the lungs already diseased, by lighting up afresh dormant inflammation.

Dr. MacSwiney, in opening the discussion on Dr. Finny's paper, said that, in any case of phthisis there were three periods when pulmonary hemorrhage might occur. The disease might be ushered in by a profuse hæmoptysis, its course might be complicated by occasional slight attacks of hæmoptysis, or its fatal termination might be hastened by severe hæmoptysis. Many pulmonary hemorrhages were not connected with, or followed by, phthisis. As arguments against the theory *phthisis ab hæmoptoe*, he would recall the fact that phthisis often did *not* follow hæmoptysis; that Dr. Williams explained the early hemorrhage as depending on a fragile state of the vessels, due to a previously existing phthisical tendency; and that pulmonary secondary inflammation could not be set up by the effused blood, since it was absorbed in a few days, as shown by the early disappearance of the phthisical sign of crepitation in these cases. He would explain Dr. Finny's cases by supposing that a phthisical tendency had caused the hæmoptysis, and he would ask whether tubercles might not remain for some time latent in the lungs. He asked whether it was advisable to arrest pulmonary hemorrhage at once. In many cases, no doubt, interference did become absolutely necessary, and then perfect quietude of mind and body was indispensable, with iced, unstimulating drinks, ergot, and extensive dry-cupping over the chest.

Dr. Grimshaw considered that hæmoptysis might certainly be regarded as a cause of phthisis. He drew a marked distinction between the *exciting* and the *predisposing* causes of phthisis. While admitting Dr. MacSwiney's position, that crepitation after hemorrhage disappeared with the absorption of the fluids of the blood, he stated that the solid constituents of the blood remained, and acted as an irritant foreign body. Local treatment by depletion in cases of hæmoptysis uncomplicated by phthisis was often useful in checking a tendency to secondary inflammation.

Dr. H. Kennedy said that, if nutrition were an inflammation then Niemeyer's views would be accepted by him. He alluded to cirrhosis of the lung in which great hemorrhages were not followed by phthisis. A similar state of affairs was to be found in pulmonary apoplexy. The effect of hæmoptysis was often most salutary in relieving symptoms where phthisis had already set in. He believed that in all the cases brought forward by Dr. Finny there was evidence of previously existing mischief in the lungs.

Dr. Hayden deprecated the adoption of any exclusive doctrine, such as Laennec's as to the tubercular nature of phthisis, or as to the modern view of the origin of phthisis from pulmonary hemorrhage. The truth lay between the two extremes, thus—latent tubercle might be a cause of hæmoptysis; while, on the other hand, primary pulmonary hemorrhage might lead to secondary disorganization of lung-tissue.

Dr. Gerald Yeo concurred with Dr. Finny's views. He could not agree with Dr. Kennedy that pulmonary apoplexy was not a cause of phthisis; on the contrary, he thought that small apoplexies (hemorrhagic infarctions), in themselves not sufficient to produce immediate death, frequently caused destruction of the lung-tissue, and thus phthisis.

Dr. James Little said that two factors were necessary to produce post-hemorrhagic phthisis—the occurrence of hemorrhage, and the pre-existence of a phthisical tendency.

Mr. Fleming drew attention to the analogy between the crepitation heard in cases of traumatic hæmoptysis and the emphysematous crackling observed in cases of subcutaneous or intramuscular extravasation of blood.

Dr. Finny gave a full *résumé* of his opinions on the relations between hæmoptysis and phthisis. The society then adjourned.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 53.—*Treatment of Valvular Diseases of the Heart.*

By THOMAS B. PEACOCK, M.D., F.R.C.P., Senior Physician to St. Thomas's Hospital.

(*Medical Times and Gazette*, Sept. 27, 1873.)

The following is a brief summary of the principles Dr. Peacock says should guide us in our efforts to afford relief to the various different forms of valvular disease:—

1. In aortic obstructive disease we must endeavor to regulate the action of the heart, which in the earlier stages may be excessive, and in the latter may, on the contrary, be unequal to overcome the obstruction.

2. In aortic regurgitant disease the power of the heart is always defective, and our efforts must be used to enable it to maintain the circulation and to avoid the tendency to exhaustion and to death by syncope.

3. In mitral obstructive disease the danger is also partly from failure of muscular power and partly from congestion of the parts anterior to the seat of constriction.

4. In mitral regurgitant disease there is great impediment to the onward flow of the circulation, but the especial sources of danger lie in the engorgement of the lungs and parenchymatous viscera, and we must endeavor to invigorate the action of the heart and remove the visceral congestion.

In all the forms of disease the means employed to accomplish these indications must be partly hygienic and partly medicinal. The patient must be directed to avoid active exercise, and especially anything of the nature of athletic sports; his mind must also be occupied, but severe mental labor must be avoided. He must live on nutritious but unstimulating and easily digestible food, and must either avoid stimulating beverages altogether, or take them only in a dilute form and in very limited quantity—claret, sherry, or brandy being preferred to port or malt liquors.

In the first and third forms of disease, in addition to the hygienic means, the digestive organs should be regulated by mild alteratives and bitter tonics: blue pill, or gray powder with rhubarb may be taken as required, with alkalies and bitter infusions—colombo or gentian; and when the power fails, and the patient is anæmic, iron, more particularly in the form of the citrate, phosphate, or carbonate, may be given. Hydrocyanic acid is also often very useful in quieting the action of the heart, and relieving dyspeptic symptoms in cases of this kind.

In the second form of disease, while similar regulations, both dietetic, regiminal, and medicinal, should be enforced, the power of the heart must be upheld to guard against the special danger of syncope. Food must be taken in small quantity, and at frequent intervals, and stimulants must be given, those before referred to being selected. The special remedies also for this condition are tonics—more particularly iron—given in combination with quinine, etc.

In the fourth form, and especially when there is marked congestion of the lungs or other viscera, and dropsical symptoms, we must endeavor to promote elimination, more particularly by the bowels and kidneys, while upholding the muscular power of the heart. Mild alteratives and aperients—mercurials, rhubarb, the alkalies—and diuretics—the acetate or nitrate of potash, nitric ether, etc., may be given, and must be combined with or followed by the employment of iron and other tonics, the perchloride of iron being in these cases preferred.

In carrying out these several indications the greatest care will be needed not unduly to depress the power of the patient. There are, indeed, few classes of cases, the treatment of which so severely taxes the powers of the physician.

It is well known that digitalis exerts special action on the heart, lessening

the frequency of its pulsations, and proportionately increasing their power, and it has been supposed to be particularly efficacious in the treatment of cardiac affections, especially those in which the action of the heart and the pulse are weak and irregular. Dr. Peacock cannot, however, but think that its use has been too generally and too indiscriminately had recourse to. For a time it unquestionably does produce the effects mentioned, but if long continued, even in small doses, it exerts a very depressing influence, and Dr. Peacock has repeatedly seen cases in which it has very greatly aggravated the symptoms. Indeed, he believes it to be much more useful as a diuretic than for its special action on the heart. It is probably the most efficient diuretic which we possess, and is especially useful and valuable in cases of dropsy, and particularly when dropsy occurs in cases of mitral regurgitation, while it is injurious in cases in which the power of the heart is deficient, as in cases of incompetency of the aortic valves. In all cases in which it is employed, and especially if its use be long continued, even in small doses, it requires the greatest care. In some cases, where there is very great congestion of the lungs and right side of the heart, as in mitral regurgitation, it has been proposed to have recourse to small general bleedings to relieve the overloaded venous system. Dr. Peacock has known a small bleeding, combined with the exhibition of stimulus, to be the means of rallying, when in most extreme danger, a patient laboring under asthenic bronchitis, and it is obvious that the treatment is equally applicable to cases of heart disease.

Generally speaking, the causes which, in chronic cases of valvular disease, entail the greatest suffering on the patient, and tend most to aggravate his malady and accelerate the fatal event, are increased pulmonary congestion, or renal complication resulting from cold, or disorder of the digestive organs originating in various ways, or excitement of mind and over-exertion of body; and special care should be exercised to protect him against these influences. In many cases, if the patient be placed in favorable circumstances, life may be prolonged and a large amount of health and vigor be enjoyed for many years. As, however, he is little likely to submit to the requisite restraints, unless made aware of their imperative necessity, it is right that he should so far be informed of his state as to make him see the importance of the regimen advised; but it would be alike wanting, both in consideration for his feelings, and in sound professional policy, abruptly to tell him that he was laboring under serious cardiac disease.

ART. 54.—*Researches on the Action and Sounds of the Heart.*

By GEORGE PATON, M.D.

(Monograph. London. 1873.)

The following is a summary of the conclusions at which Dr. Paton has arrived:—

“The reaction of the aorta, and the closure of the sigmoid (aortic) valves, are factors in the production of the first sound, therefore a murmur of aortic valve inadequacy ‘affects the termination of the first sound.’

“The basic portion of the ventricle remains contracted during closure of the sigmoid valves, so as to support them.

“The second sound is caused by contraction of the auricles.

“The valve-click element of the first sound is denied.

“The ‘sharp and acute’ sound, or that which is produced by the contraction of the auricles, is the first sound of the heart, and is associated with the dull and prolonged sound which *follows* it, and not with that which *precedes* it, by belonging to the same cycle of function—i. e., the order of sounds is made to correspond to that of the circulation.

“Reduplication of the first sound is due to a resolution of it into the ventricular and aortic elements.”

ART. 55.—*On Functional Mitral Murmur.*

By CHRISTOPHER J. NIXON, F.R.C.S.I.

(British Medical Journal, July 26.)

At a meeting of the Medical Society of the College of Physicians, Ireland, May 14th, 1873, Mr. Christopher J. Nixon detailed several cases illustrating the existence of mitral murmur, independent of valvular lesion. In three out of five cases of functional mitral murmur, which had recently come under the author's notice, the nature of the murmur was finally determined by the negative results on post-mortem examination; and in the remaining two cases, the murmur was intermittent in character. The difficulty attending differential diagnosis was great, from the similarity in character of a functional and an organic bruit; and even the seat of functional murmur was not as yet a settled point. Thus Hope and Beau held, that it was developed at the aortic orifice; Hughes, that it arose in the pulmonary artery; Parrot and Hunt, that it arose in the right auriculo-ventricular orifice; while Gardiner, Bristowe, Hayden, Da Costa, and others, maintained that the site of functional apex murmur was in the mitral orifice. Drs. Stokes and Walshe, indeed, had placed on record cases where mitral murmur coexisted with dilatation and hypertrophy of the left ventricle. In explanation of the cause of functional murmur, we should either believe, with Bamberger, that the murmur was due solely to sonorous vibrations of the auriculo-ventricular valves, produced by atony, dependent on fatty degeneration of the muscoli papillares, or hold that it was due to regurgitation of blood through a functionally imperfect valve. Assuming then, with Bristowe and the majority of writers, that the murmur was the symbol of regurgitation, it was still impossible to offer any single explanation which would apply to all cases, as to the cause of the murmur. He (Mr. Nixon) would with diffidence suggest that, in most cases, functional mitral murmur was the result of an irregularity, or rather a want of correspondence in the action of the sets of fibres of the ventricle which obliterate its cavity and those which close its valve; that this altered function was entirely due to some defect in the vital power or condition of the heart itself, leading either to atony of the muscoli papillares, or to derangement in the rhythm of their movement. The points of differential diagnosis were, the changeable characters of the murmur, and its alteration by position, its varying existence and its varying intensity, a variation in the volume of the radial pulse, the almost complete absence of pulmonary distress, or of doubling or accenting of the second sound, and the position of the greatest intensity of the murmur, over the body of the left ventricle (Da Costa). The author was of opinion that inorganic mitral murmur was of much greater frequency than was commonly taught or believed, and that the old doctrine, that murmurs are the landmarks of valvular disease, needed much qualification, especially when applied to those developed at the apex of the heart.

The Chairman (Dr. Gordon) expressed his opinion that functional mitral murmurs were usually connected with some nervous lesion. In support of this view, he instanced the case of a growing lad, who was the subject of hay-asthma, from year to year. During the attacks, and not otherwise, a loud, rasping, regurgitant murmur was always audible in the situation of the mitral valve.

Dr. Hayden said that patients suffering from a mitral murmur of any kind would, a few years ago, have been refused as ineligible lives. But he had been led to consider non-valvular mitral murmur of systolic rhythm, and he had read a paper on the subject before the British Medical Association in 1867. His view of these cases was, that the murmur was due to the yielding of a portion of the wall of the left ventricle, in consequence of which, the papillary muscles were altered in their relation to the valves. As regarded differential diagnosis, there was in the murmur itself a distinguishing quality, in addition to the signs mentioned by Mr. Nixon. It was an exceedingly soft blowing murmur, accompanying or succeeding, but not superseding, the first sound of the heart.

Dr. H. Kennedy thought several causes were combined in the production of functional cardiac murmurs, one of the principal being a certain state of the

blood. The position of the patients altered the character of soft, blowing murmurs; they were either lost altogether, or rendered much weaker when the patient assumed the upright position. Murmurs in fever surely depended on alterations in the blood.

ART. 56.—*On the Influence of Digitalis on the Weak Heart of Typhus Fever.*

By JAMES GRIMSHAW, M.D.

(*British Medical Journal*, July 26.)

Dr. Grimshaw, at a meeting of the College of Physicians, Ireland, on May 16th, stated, in answer to an appeal made last January by Dr. James Little, that the effect and value of digitalis in acute asthenic disease should be put to the test by hospital physicians, he had used the drug rather extensively in the treatment of severe typhus fever during the past four months. It might now be taken as an established fact, that digitalis acted as a stimulant to the circulation, restoring tone to the muscular fibres of the heart and bloodvessels. Loss of tension was the great character of the pulse in many cases of typhus, and this disease was consequently the one most adapted for the experiments with digitalis. Having described at some length the differences in the sphygmographic tracings of the pulse in health and in fever, Dr. Grimshaw detailed thirteen cases of severe typhus, in which he had used digitalis in large quantities, generally without any other medicine or stimulants. Two cases terminated fatally; but of these one was admitted to hospital already *in articulo mortis*. Apart from statistical results, which would be unreliable as drawn from such a limited number of cases, the author had come to the following conclusions—namely, that digitalis does not shorten the duration of the fever, or influence its characteristic range of temperature (a fact pointed out by M. Desnos); that it prevents or lessens delirium, and improves the tension of the pulse, which falls somewhat in frequency under the use of the drug; that a sudden fall in the pulse-rate and temperature (while digitalis is being administered), is an indication of danger, and calls for the withholding of the drug; that suitable doses are from half an ounce to an ounce and a half of the infusion every second or third hour; and that stimulants should be given in addition, if the digitalis had not produced beneficial effects on the pulse (after twenty-four hours).

ART. 57.—*A Case of Patent Ductus Arteriosus.*

By C. HILTON FAGGE, M.D.

(*Guy's Hospital Reports*, vol. xviii. 1873.)

In volume sixteen of the present series of these reports, Dr. Fagge describes a case in which a murmur was audible different in character from any bruit he had ever before heard. Two views as to its cause suggested themselves to his mind—one that it was due to a communication between the aorta and the pulmonary artery; the other, that it was a modification of an auricular systolic murmur. Last year the patient returned to the hospital and died there. On post-mortem examination it was found, that the only lesion to which the peculiar bruit could be attributed was a patent ductus arteriosus. The peculiar features in the case were extreme slowness of the pulse, and the presence of a wavy, partly musical murmur, audible at the second left costal cartilage, extending considerably to the left of the sternum along the cartilage, not carried along the sternum downwards, following the second sound, but not everywhere continuous with it, and separated from the next first sound by a considerable interval. Very few cases are on record in which a persistent ductus arteriosus has been believed to have given rise to a murmur. In the first volume of the *Transactions of the Pathological Society of London*, a case is recorded by Dr. Babington, which is the only one mentioned by Walshe. Prof. Jaksch reports a case in the *Prager Vierteljahrschrift*, for 1862, in which there was a mur-

mur similar to that heard in the case reported in this paper. On post-mortem examination the foramen ovale was patent, as well as the ductus arteriosus.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 58.—*On Acute Dilatation of the Stomach.*

By C. HILTON FAGGE, M.D.

(*Guy's Hospital Reports.* Third series. Vol. xviii. 8vo. pp. xviii. 502. London. 1873.)

Although chronic dilatation of the stomach, whether dependent or not upon obstruction at the pylorus or in the small intestines, is a condition which has long been recognized, Dr. Fagge thinks that up to the present time its physical diagnosis has not been carefully studied. It would be a great mistake, he says, to suppose that an enlarged stomach differs from the healthy organ simply in occupying a larger part of the abdomen. On the contrary, a constant feature of these cases is that the organ is greatly displaced downwards; the gastro-hepatic omentum, the lesser curvature, and the cardiac extremity of the stomach being all much elongated. Hence, instead of the dilated stomach forming a prominence in the epigastrium, that region is more or less deeply hollowed, whilst below the umbilicus one may observe a large rounded tympanitic swelling. But (he continues) the most distinctive feature of dilatation of the stomach in these cases, and that which enables the exact position of the organ to be most accurately determined, is afforded by the peristaltic movements of its muscular coat. These usually begin near the left costal cartilages, descend below the umbilicus, and after passing over to the right, terminate by ascending more or less towards the right hypochondrium. The movements of the small intestines, so frequently seen in cases of chronic intestinal obstruction, present very different characters; and in the transverse colon direct peristalsis would produce a wave passing from right to left, or in the reverse direction to that which has been described as belonging ordinarily to the gastric contraction. It must, however, be remembered that in both forms of disease, anti-peristaltic movements may and do occasionally take place.

Acute dilatation of the stomach, although occurring oftener than is perhaps suspected, is a very rare affection, Dr. Fagge having been able to collect only four cases. One of these he saw in consultation, another was treated by Dr. Rees in Guy's Hospital, the third is recorded in the fourth volume of the Transactions of the London Pathological Society, and the fourth is reported by Dr. Bennett in his work on the Principles and Practice of Medicine. The first is especially interesting, because the diagnosis was fully made, and the proper remedies applied during the life of the patient. He was a young man, eighteen years of age, of tall but spare frame, and although until fourteen days before he was seen by Dr. Fagge he had been in the enjoyment of his usual health, he was probably not possessed of a very robust constitution. Upon examination, the abdomen was found to be greatly but not uniformly distended. For while the whole of the lower part of the belly was full and rounded, and the left hypochondrium was equally so, the right hypochondrium was flat, or even slightly hollowed. The separation between the rounded and flattened region was indicated by an oblique line descending downwards and to the right from the upper part of the left hypochondrium. Every time the patient breathed, this line could be seen to descend a little. The principal symptoms were constant vomiting of a greenish liquid, as much as a pint being brought up at a time, and pain in the abdomen. There was a tendency to constipation, and to suppression of the urine. The symptoms were relieved at first, but afterwards returned in full force; the vomiting, however, again ceasing before the patient was visited by Dr. Fagge, who at once came to the conclusion that, whatever the original disease might have been, his distress was then mainly caused by dilatation of the stomach, and that this organ contained a large quantity of fluid, but was paralyzed from over-distension, and unable to rid itself of its

burden. He therefore determined to use the stomach-pump and empty the stomach, feeding the patient for a few days by nutrient enemata, and in this way giving the organ complete rest. The tube of the stomach-pump was accordingly introduced, and as soon as it had entered the stomach a few ounces of fluid, similar to that previously vomited, were ejected through it with considerable force; and when the pump was put into action, seven pints more were removed. The effect of the operation upon the contour of the abdomen was very marked, and, together with this, there was complete relief from pain. The improvement was unfortunately only temporary, for two hours and a half later the patient died. At the autopsy the stomach was found only moderately dilated, but when it was pulled down by means of the omentum, it could be made to come considerably below the umbilicus. A little patch of lymph was discovered at one spot on the peritoneum, passing from the large bowel to the mesentery of the small intestine. During the necessary manipulations, the serous membrane gave way at this spot, and a thin fetid fluid with air exuded. This was found to come from a large cavity situated behind the ascending colon, gall-bladder, and other parts, all of which were fixed together by firm fibrous adhesions of old date. A finger passed through the pylorus went straight into this cavity, and it was at first supposed that the whole calibre of the second portion of the duodenum had sloughed away. Subsequently, it was found that the duodenum passed down on the inner side of the cavity. Besides a considerable quantity of fetid fluid, the cavity contained a large-sized slough some inches long, apparently the remains of a mass of connective tissue. Dr. Fagge apparently attaches very little consequence to this lesion, but it is impossible to conceive that it was without an important bearing upon the result of the case.

In the other three cases the enlargement of the stomach was much more considerable. In the case reported by Dr. Rees, "when the abdomen was opened the stomach was almost the only organ visible. The stomach passed from the under surface of the diaphragm downwards as far as the pubes; an oblique line traced in this direction was found to measure thirteen inches. The organ then bent sharply upwards to reach the under surface of the liver, where the pylorus lay in its natural position; a line traced obliquely upwards from the lower end of the other line at the symphysis pubis, measured eight and a half inches."

Dr. Fagge, from a careful study of the four cases reported in this paper, thinks the following conclusions justifiable: 1. Acute dilatation of the stomach may arise in young subjects, in whom that organ has previously been apparently healthy. The actual progress of enlargement is more or less gradual; but it produces at first no symptoms, and when these occur they are hidden in their onset, and of great severity, and may destroy life in a few days. Acute dilatation of the stomach may be the only disease found in the body after death, as it may have supervened upon some other morbid change in the alimentary canal. 2. Its signs are, (a) a rapidly increasing distension of the abdomen, which is unsymmetrical—the left hypochondrium being full, while the right hypochondrium is comparatively flattened; (b) The existence of a surface-marking descending obliquely towards the umbilicus from the left hypochondrium, and corresponding to the dropped-down lesser curvature of the stomach, this line appearing to descend with each act of inspiration; (c) The presence of fluctuation in the lower part of the abdomen; (d) The occurrence of splashing when the distended part is manipulated; (e) The presence of a uniformly tympanitic note over a large part of the distended region when the patient lies on his back. Above the pubes, on the other hand, there may be dullness on percussion simulating that of a distended bladder. 3. Its symptoms are those of severe abdominal disease, without evidence of peritonitis or lesion of the intestines. There is very profuse vomiting, so that several quarts may be evacuated in the twenty-four hours. After a time, however, vomiting may cease entirely, the stomach being paralyzed, and unable to rid itself of its contents. There is no absolute constipation, although the bowels may be more or less confined. The urine is scanty. 4. After the removal of the stomach from the body, and the escape of its contents, it may shrink back to its natural size, no matter how great its previous enlargement, and the only remaining

indication that it had undergone extreme distension may be the presence of slight lacerations of its coats.

The treatment which Dr. Fagge recommends is that which he adopted in the case which has been so fully referred to in this notice.

In the case reported by Dr. Bennett, the patient a few days before his death swallowed two or three bottlefuls of effervescing lemonade, and the dilatation of the stomach was believed to have arisen from the sudden disengagement of a large quantity of gas. No cause is assigned for the occurrence of the condition in the other three cases. In two of the cases *sarcinæ* were discovered in the matter vomited in greater or less number. In both these instances numerous ecchymoses were found in the mucous membrane of the stomach—a fact of some interest as bearing upon the opinion lately advanced, that, instead of being vegetable organisms, *sarcinæ* arise from aggregations of blood disease.

ART. 59.—*Treatment of Constipation.*

By Dr. MACARIO, of Nice.

(*Medical Times and Gazette*, June 21.)

Dr. Macario, in a communication to the *Lyon Médical*, observes that in treating constipation most practitioners confine themselves to enemata, laxatives, or more or less irritating purgatives, which in point of fact rather aggravate than cure the affection. He therefore wishes to make known what he says may be truly termed a “heroic” remedy, which he has employed during twelve years with such constant success that he cannot but regard it as infallible.

Constipation, as every one knows, may be produced by intestinal excitement with deficiency of secretion (nervous constipation), or in consequence of deficient contraction of the muscular coat of the intestine. Here it is produced by atony or intestinal indolence, which bad anti-hygienic habits have induced and keep up. The prolonged contact of the feces with the rectum blunts the sensibility of the mucous and muscular tissues, and the synergical contraction of the upper portions of the large intestine either does not take place or does so in an insufficient degree, constipation being the result. In *nervous* constipation the following pill should be given: Pure sulphate of iron, ten centigrammes; socotrine aloes, five centigrammes; atropine, from one-third to one-half of a milligramme. In the *atonic* form, for atropine one centigramme of powder of *nux vomica* may be substituted. By the aid of these pills regular stools may be procured, even in the subjects of obstinate constipation due to ramollissement of the brain and chronic myelitis with paraplegia. Dr. Macario gives from one to three pills immediately after dinner, the object being to produce one easy, natural, non diarrhœic evacuation. If more than this is effected, the dose is to be diminished, one or two pills sufficing in most cases. The use of these “antistypic” pills ought not to be continued indefinitely, a longer interval being allowed to elapse between their administration in proportion as the constipation diminishes, it being of importance to allow the organs to resume their spontaneous action without any auxiliary. If the constipation returns the pills can be again had recourse to.

ART. 60.—*On the Treatment of Habitual Constipation by Podophyllin.*

By Dr. LABADIE-LAGRAVE.

(*Gazette Hebdomadaire*, No. 20, 1873)

It is hardly ten years since this medicinal agent was first introduced into France by Trousseau, who recommended it in cases of obstinate constipation, although it had been employed from time immemorial by the Indians of South America. In 1844 Dr. King, of Cincinnati, made known the advantages of this agent to the medical men of the United States, and some years later Dr.

G. Wood devoted to it an important chapter in his remarkable treatise on therapeutics. After the ephemeral favor enjoyed by podophyllin in France, it fell again into oblivion, until recently, when Dr. Constantin Paul again brought forward this therapeutic agent, which, for some years, had remained almost entirely unknown. Dr. Paul stated truly that a real service is done to therapeutics by bringing to the knowledge of medical men any agent that may end in relieving patients of an affection so tenacious as constipation.

In doses of 50 centigrammes to one gramme podophyllin acts as a sure purgative; it affords very abundant bilious stools, and acts but slightly on the muscular element of the intestines. When administered in doses exceeding one gramme and a half, it acts as a drastic, causes colic, and often excites vomiting.

If the statements of the physicians who have studied the action of podophyllin are to be relied on, this agent may be considered as a veritable panacea. According to Deschamps of Avallon, it possesses marvellous therapeutic properties: "It is a bitter tonic, like rhubarb; emeto-cathartic, like the ranunculaceæ; purgative, like jalap; alterative, like mercurial preparations; narcotic and poisonous, like the papaveraceous agents. It may be substituted for calomel; it is emmenagogue and anthelmintic; it produces very satisfactory reactions in the expulsion of biliary calculi, that is to say, it is a cholagogue. It is very useful in hepatic colic, ascites, anasarca, fatty liver, icterus, chronic catarrhs, glandular affections, dysentery, hypochondria."

So bright an enumeration no doubt needs a corrective, so M. Deschamps goes on to describe the inconveniences which may be caused by podophyllin. When prescribed for a long time in doses smaller than those which determine purgation, it gives rise to a form of ptyalism, which, however, never passes into ulcerative stomatitis. It may excite also a pustular eruption of the nose and eyelids, and an artificial eczematous eruption of the fingers and toes.

According to M. Constantin Paul, the action of this purgative may be thus summed up: it causes but slight irritation of the mucous membrane, and never causes enteritis, like jalap and croton-oil. It does not induce pathogenetic dysentery, except when given in large doses, and then the attack is slight, as has been shown by the experiments of Dr. Hughes Bennett on dogs. Its action on the intestinal and hepatic glands is well marked, as the stools are abundantly provided with mucus and bile.

This latter assertion, formulated by Dr. Paul, on the authority of Dr. Bennett, has been partly refuted by recent experiments. The members of the Medical Association, relying on experimental researches made on dogs with mercury, taraxacum, and podophyllin, have denied this latter agent the cholagogue action which had been attributed to it by the majority of authors. These experiments tended to show that podophyllin does not increase the biliary secretion, and that, except when it is given in purgative doses, the solid and liquid elements of the bile are diminished.

This short review of the works which have been published on podophyllum, and on its derivatives (podophyllin and podophylline) shows how frequently those who are the first to study new therapeutical agents make doubtful statements, and thus it is explained how their publication meets with so much incredulity.

Podophyllin is the official name given to the root of the *Podophyllum peltatum*, called by English and Americans the May-apple or mandrake. This plant grows abundantly in septentrional America. Its root or rhizome creeps under the ground and sends off at intervals a stalk which soon divides into two pedicles, supporting a large deeply lobed leaf; at the point of bifurcation of the stalk is implanted a long peduncle carrying a fine white flower, which appears in the spring. The fruit which replaces this ripens in the autumn, and presents the form and volume of a lemon. It is very acid, and its odor resembles that of the citron; hence the name of *wild-lemon* given to it by Americans.

The root of this herbaceous plant, such as is preserved by druggists, is in small fragments of a brown color externally and white internally; its sweet odor recalls that of the ipecacuanha; it has a bitter and slightly sharp and nauseating taste. The purgative properties of the drug seem to reside exclu-

sively in its resinous matter, which Dr. Lewis, of Philadelphia, found in the proportion of 3 or 4 to 100.

This resinous matter is composed of two distinct resins: one soluble in ether and alcohol, the other soluble only in alcohol. Both are endowed with purgative properties. According to Dr. Manlius Smith, the pure and white resin, podophylline, may be obtained by precipitating the tincture by water, in the same way that the resin of jalap is obtained.

The following is the mode of preparation recommended by M. Deschamps: The pulverized rhizome of podophyllin is submitted to lixiviation with concentrated alcohol; then the alcoholic solution is evaporated so as to form an extract of syrupy consistence; this extract is then mixed with three times its weight of cold water, and the resinous matter is allowed to become deposited. The resin after filtration and drying is again washed. The podophyllin thus obtained is much more active than the powder of podophyllum. Doses of from 10 to 15 centigrammes cause purgation, and a dose of 5 centigrammes will produce three or four soft stools. Dr. Bouchut recommends a smaller dose than that of 10 centigrammes if one does not wish to produce more than a single evacuation; 2 centigrammes associated with a like quantity of datura stramonium ought then to suffice.

Trousseau was in the habit of associating podophyllin with the extract of belladonna according to the following formula:—

Podophyllin	2 centigrammes.
Extract of belladonna	1 centigramme.
Belladonna root	1 centigramme.

One pill, to be taken every night at bedtime.

Van der Corput, who has testified to the efficacy of podophyllin in the treatment of saturnine constipation, administers it in the following manner:—

First formula.

Podophyllin	20 centigrammes.
Medicinal soap	1 gramme.
Essence of feunel or of cinnamon	A few drops.

Make 10 pills, 2 or 4 of which to be taken daily.

Second formula.

Podophyllin	30 centigrammes.
Extract of nux vomica	50 centigrammes.
Extract of belladonna	30 centigrammes.

Make 10 pills, 2 or 3 to be taken daily.

The same physician also employs podophyllin in cases of biliary lithiasis, in doses of from 10 to 20 centigrammes in a draught, and administers on the following day a large dose of castor oil.

The most important advantages attending the employment of podophyllin in cases of constipation are these: in the first place it does not produce consecutive constipation, and in the second place it may be used for a long time without losing any of its action.

If, adds Dr. Paul, instead of prescribing the medium dose of 5 or 10 centigrammes, one descends to a dose of 2 or 5 centigrammes, purgation will not be obtained, and one will provoke only expulsion of the material contained in the large intestine; with a pill containing this small quantity of podophyllin, a natural stool without any colic will take place on the following morning.

ART. 61.—*On Intestinal Obstruction due to Internal or Intra-Abdominal Hernia.*

By Dr. A. FAUCON.

(*Archives Générales de Médecine*, Juillet, 1873.)

1. One of the varieties of internal strangulation recognizes as its cause an *internal or intra-abdominal hernia*.

2. Herniæ of this kind may be divided into two groups :—

- (a) Herniæ properly so-called.
- (b) The pseudo-herniæ.

3. The internal proper herniæ which may give rise to symptoms of strangulation are the following :—

- 1. The mesocolic hernia.
- 2. The intra-iliac hernia.
- 3. The ante-vesical hernia.
- 4. The intra-pelvic hernia.
- 5. Hernia of the broad ligament.
- 6. The internal testicular vaginal hernia.

4. The internal pseudo-herniæ are due to the abnormal arrangements of peritoneum, which sometimes accompany a testicular ectopia, and sometimes, when they are probably congenital, have no appreciable cause.

5. The mode of formation of these different varieties of internal herniæ is imperfectly known, and remains to be studied.

6. From a clinical point of view, the symptoms to which they give rise permit us to divide them into two groups :—

(a) Strangulations which have no other characters beside those of ordinary intestinal obstruction.

(b) Strangulations which acquire a special physiognomy from special character due to associated phenomena, to the composition of the sac, or to the absence of one or both testicles from the scrotum.

7. The strangulation of these kind of herniæ is always fatal, unless surgical aid intervenes before the development of inflammation of the sac, and its propagation to the peritoneum.

8. The operative proceeding which most facilitates the exploration and freeing of the strangulated intestinal loop, and which seems to be the best fitted for preventing consecutive accidents, is *gastrotomy* practised according to certain rules, and followed or not, according to the case, by division of the strangulating agent.

ART. 62.—*Salicin in Obstinate Diarrhœa.*

By I. B. MATTISON, M.D., Chester, N. J.

(*Philadelphia Medical and Surgical Reporter*, February 1.)

Dr. Mattison says that an assertion that the majority of practitioners, during an active professional life, meet with one or more cases of diarrhœa which prove utterly rebellious to ordinary treatment, will, he presumes, pass unchallenged. After an experience limited to a few years, he has the record of several such instances, and the success in his hands attending the use of salicin has been so marked and gratifying, that he is induced to place it before the profession, for the benefit of those who may not as yet have given this remedy a trial under similar circumstances. He administers in powder or pilular form, to children preferably the former, in any appropriate vehicle, in doses, under two years of age, of one-half grain every four hours, and to adults after the following formula: R Salicin, ʒj; fiat pill. No. 24. Sig. Two pills every four hours. Its employment is followed after a short time by a decrease in the frequency of the evacu-

ations, a return to their normal color and consistence, and subsequent restoration to entire health.

ART. 63.—*Chlorate of Potash and Glycerine Injections in Chronic Dysentery.*

By THEODORE MEAD, M.D.

(*New York Medical Journal*, Sept.)

Dr. Mead advocates the injection in chronic dysentery of half a drachm of chlorate of potash rubbed up in half an ounce of glycerine and mixed with three to four ounces of warm water. This should be thrown into the bowel thrice daily, and should be retained as long as possible. He gives two cases as illustrative of the results of this plan of treatment.

1. A young man, aged twenty-seven, was first attacked with dysentery in 1861, and had never been rid of the disease, or had a natural stool, up to June, 1868, when he came under notice. He was then having twenty to thirty stools in the twenty-four hours; was weak and anæmic; muscles atrophied; skin dry; pulse weak, and his general appearance indicated approaching dissolution. The use of opium and whiskey, which had always been ordered him in large quantities during the whole of his sickness, was at once prohibited; he was given quinine, iron, strong beef-tea, and forty-grain doses of subnitrate of bismuth suspended in mucilage. The injections were at once commenced, and at first gave him intense pain and were rejected as soon as thrown up, but a decided effect was produced. In a short time the unpleasant sensations subsided, and in a few days he could hold the injections an hour. In twelve days his stools were reduced to eight or ten in the twenty-four hours, and were almost free from pus and mucus. In three months he was able to resume daily work, and has continued it ever since, with no return of his dysenteric troubles.

2. In the second case the dysentery followed an attack of bilious fever, was very obstinate, resisted all the ordinary remedies, and brought the patient to the verge of the grave. The treatment was substantially the same as in the other case, and recovery was complete in two and a half months.

(E) CONCERNING THE GENTIO-URINARY SYSTEM.

ART. 64.—*On the Formation of Uric Acid Calculi.*¹

By GEORGE HARLEY, M.D., F.R.S.

(*British Medical Journal*, August 30.)

There had recently been published some discordant views on the subject, which, instead of advancing our knowledge, seemed rather to carry us back to the time ere physiological chemistry had revealed the true nature of calculi, and laid a sound foundation for their rational treatment. As perfectly healthy urine never contained any deposit, the frequent appearance of a crystalline or amorphous sediment in the urine was a sign which ought never to be disregarded, as it was the earliest indication of the formation of a urinary concretion; and it was in this early stage that medicine was potent in arresting and eradicating the disease. The deposition of a calculus in any part of the urinary passages, no matter whether it were a constitutional or accidental one, was always due to some special local cause, which might be trifling or temporary. When the deposition of urinary sediment had begun, the calculus went on increasing independently of the original local condition. The proportion of patients affected with uric acid, when compared with those laboring under other kinds of stone, was as 7 to 10, or 70 per cent. Calculi composed of uric acid and urates had two distinct modes of formation, the crystalline and the molecular. In the formation of both of these kinds of calculi, the crystalloid was united

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

with a certain amount of colloid material. As regarded the color of uric acid calculi, which was known to vary from a white or pale yellow fawn to a rich mahogany red or dark chestnut brown color, Dr. George Harley stated that it depended entirely upon the urohæmatine present in the urine; the calculus varying in depth of color according as the quantity of urohæmatine was small or great, just in the same way as crystals of sugar candy owed their pink, yellow, or other tints to the pigment present in the water out of which they were crystallized. According to the author, nearly all uric acid calculi originated in the kidneys, and were washed down into the bladder with the urine. It was usually stated in books that uric acid gravel chiefly affected the well fed and corpulent; but this, the writer stated, was a great error, as it equally occurred among the poorly nourished and emaciated. He concluded the remarks by stating that constitutional calculi occurred at every period of life, from the cradle to the grave. Moreover, he believed it quite possible that in cases where there was a strong hereditary tendency to the uric acid diathesis (which could be often traced through three or four generations), calculi might begin to form in the pelvis of the kidney while the fœtus was yet in utero.

ART. 65.—*The Preventive Treatment of Uric Acid Calculi.*¹

By GEORGE HARLEY, M.D., F.R.S.

(*British Medical Journal*, August 30.)

Dr. Harley limited himself to the consideration of the means of arresting the formation of uric acid calculi, and facilitating the discharge of those not already too large to be voided by the natural channel, which included all calculi not exceeding the size of field-beans. Tea, coffee, wines, and beers were to be prohibited, or, at least, prescribed in very great moderation, to patients labouring under the uric acid diathesis. He next alluded to the recent proposal of Dr. Day, of Victoria, to give ozonic ether in such cases, and passed on to the consideration of the alkaline treatment. From the very earliest times, alkalies had been resorted to with the view of retaining uric acid in solution until its expulsion from the body; and what the ancients did empirically we moderns did scientifically by improved methods, and with much greater success. The alkalies now in most general use were soda, potash, and lithia, in the form of carbonates, citrates, and acetates. Ammonia, on the other hand, was avoided in the uric acid diathesis, on account of the salt which it formed being less soluble than any of the others. The common idea was, that the action of alkalies in the uric acid diathesis was solely and purely a chemical one. There no doubt existed a chemical action, and that a most important one; but, beyond this, there was an important physiological action produced in the body, through which the oxidation process was so much increased as to transform the little soluble uric acid into the very soluble urea. To Dr. Basham was owed the establishment of this as a clinical fact. In the treatment of the uric acid diathesis, more depended on the dose than on the kind of alkali given. As a general law, it was unnecessary to render the urine more than neutral, except in cases where we were attempting the dissolution of stones already formed; but, even then, there was danger in making the urine either too alkaline, or retaining it in an alkaline state for too great a length of time. Dr. Nunneley found that from ten to eighteen drachms of citrate of potash in twenty-four hours notably diminished the excretion of urea; and Dr. Basham found that half-drachm doses given three times a day augmented it to even double or treble its previous amount. Dr. W. Roberts, of Manchester, found that, while sixty grains of carbonate of potash to a pint of water daily dissolved twenty per cent. of a uric acid calculus, the solvent power of the solution gradually diminished as the solution was made weaker or stronger. Dr. George Harley called attention to the very great importance of the quantity and quality of the drinking water. Patients who had suffered from gravel or stone in one dis-

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

strict, frequently got rid of it on removing to another; and this he had been able to trace to the difference in the quality of water. Hard water, especially that from chalky districts, caused stone; soft water cured it. He consequently recommended the free use of distilled water, not only as a menstruum for the medicine, but also for cooking purposes. Moreover, as the more pure water taken, *cæteris paribus*, the more effectual was the treatment, he gave his patients, when possible, from twenty to forty ounces of filtered rain or distilled water in the twenty-four hours; and, where they objected to its unpalatability, a squeeze of lemon or a pinch of salt was added to it. Hard water must, in all cases, be avoided. The only substantial benefit derived from mineral waters was, he believed, that the medicine was there given in a very dilute form. In mineral waters the relative proportions of their ingredients were not regulated according to the age, constitution, state of health, and other special requirements of the patient. As regarded the benefit of mineral waters in the uric acid diathesis, he pointed out that, contrary to some recent published opinions, it was due chiefly to the alkaline salts they contained. The writer concluded by saying that the chief obstacle to our success with chemical therapeutics in the treatment of calculi lay in the imperfect knowledge of physiology and chemistry possessed by practical men, who almost invariably failed in their endeavors to combine science with empiricism.

ART. 66.—*Note on the Treatment of Chronic Cystitis.*

By H. S. PURDON, M.D., Physician to the General and Skin Hospitals at Belfast.

(*Dublin Journal of Medical Science*, Oct.)

The following note of a case of chronic cystitis occurring in a female, is recorded by Dr. Purdon:—

Mrs. M —, aged about forty, a healthy-looking country woman, residing in the County Down, was admitted into the Belfast General Hospital, under Dr. Purdon's care, in February last, suffering from chronic cystitis. She was the mother of several children, and attributed her disease to exposure to cold after last confinement. There was constant desire to make water, and pain over the region of the bladder. The former much worse at night; she was up nearly every hour, to urinate, and her health was beginning to suffer. Her urine was scanty, ammoniacal, contained a little mucus, and frequently, when the last few drops were being voided, some blood appeared. No tenesmus; bowels regular; appetite pretty good; no thirst. Dr. Purdon's colleague, Dr. Murney, sounded the bladder for stone; the result was negative. The usual routine treatment was tried in her case, such as *uva ursi*, *pareira-brava*, *buchu*, etc. Iodoform vaginal suppositories gave temporary relief, as did also washing the bladder with tepid water and tincture of opium; after some time dilute nitric acid and water, then a mixture containing copal; and lastly, prussic acid—about eight drops to the ounce of water—were tried. These remedies all gave slight relief, but only temporary, and soon lost their effect. About this time, April, Dr. Purdon saw a notice of a paper by Dr. Clemens, of Frankfort, on the treatment of chronic diseases of the bladder by the injection of tepid normal urine, and he determined to try this method (after taking his then house pupil, Mr. L., into confidence, and who supplied the necessary normal urine). The urine was injected into the bladder—after being first washed out—night and morning, a few minutes after being made, and whilst quite warm, with the most beneficial results—the patient being discharged, seemingly cured, in some three weeks. She was to return and report, but as she has never done so, Dr. Purdon takes it for granted that she has remained well. No one in the ward knew of the treatment, otherwise they would have rebelled against it, especially the patient. Dr. Clemens offers the following remarks on the injection of the bladder with normal urine, and which may be interesting to reproduce. His paper first appeared in the *Deutsche Klinik*, No. 7. He says that: "About four years since, in a very bad case of disease of the bladder, in which this organ

had been for months in contact only with decomposed and stinking urine, the idea occurred that advantage might accrue from introducing into the bladder urine with its normal proportion of uric acid. The experiment succeeded so well in this and some other cases that I became convinced that the urine in question formed a better material than the most esteemed injections. The bladder having been completely emptied by the catheter, from six to eight ounces of lukewarm distilled water was thrown in, and retained for about five minutes. After this had been removed, some tepid water is again slowly injected and retained for some minutes. A young and healthy individual now passes water into the syringe, which has been previously raised in warm water to a temperature of 25° R. and this is then immediately injected into the bladder, and left in for a longer or shorter time. The impression made by this normal blood-warm urine of a young and strong man—the temperature of which is generally higher than that which has issued from the diseased bladder—is sometimes in the highest degree favorable, so that in one case a single injection has been nearly curative." Whether this plan of treatment will prove successful in every case remains to be proved; however, it was useful in the one recorded. Probably chloral, or what has been called meta-chloral, might be tried instead, for, according to Dr. Dujardin-Baumetz, of Paris, chloral possesses the property of preventing decomposition of the urine; and Dr. Baumetz thinks that in certain diseases of the bladder it may be usefully injected into that viscus.

ART. 67.—*On a Rare Cause of Mistake in Testing Urine for Albumen by the Ordinary Processes.*

By C. E. BROWN-SÉQUARD, M.D.

(*Archives of Scientific and Practical Medicine*; and *Edinburgh Medical Journal*, June.)

"For well-known reasons it is important that the urine tested by heat be, at least slightly, acid; but, as I will show by what occurred in three cases, we might conclude that there is no albumen in naturally acid urine that does, however, contain a notable quantity of it. If we first test by heat urine containing albumen (after having ascertained that it is naturally acid), we may not find the least precipitate; and if we add nitric acid to it after it has boiled and become somewhat cold, we may yet not find a precipitation of albumen. But if we boil a second time that now acidified urine, the solidification of albumen quickly takes place, and the precipitate soon appears. This is certainly what we see in almost all cases; but I have found that it is not always so. In three instances, in which the microscope showed tubular casts in the urine, the albumen contained by this fluid was so modified by heat that if the urine (which was naturally acid) was boiled first, the addition of nitric acid in small or in large quantity at a low temperature, or at the degree of boiling, produced no solidification of that protein substance. Had I been contented with that mode of testing urine, I would have concluded that there was no albumen in those three specimens. But when I added either a small or a large quantity of nitric acid to the fresh (unboiled) urine, and then boiled it, the ordinary coagulation took place, and after some time of rest the ordinary precipitate appeared. It is evident, therefore, that there is sometimes in the urine a kind of albumen which loses its coagulability by boiling."

ART. 68.—*On Chronic Bright's Disease.*¹

By T. GRAINGER STEWART, M.D., Edinburgh.

(British Medical Journal, August 30.)

The author first insisted upon the fact that the term chronic Bright's disease in reality includes three different processes and their combinations; although from the latency of symptoms and the chronic course which it usually follows, the term is specially applicable to the cirrhotic, gouty, or contracting form. He referred to one instance of waxy disease which he had watched for eleven years, and to one of inflammation which he had watched for seven years, besides others which, though not so prolonged, were unquestionably chronic. A granular condition of the kidney—i. e., unevenness of surface—occurs in all the forms of Bright's disease if the cases be sufficiently prolonged. Dr. Stewart then discussed the pathology of the cirrhotic kidney, described and commented on the theories of Gull and Sutton and of Johnson, and that maintained, among others, by Dickinson and the author himself. After satisfying himself regarding the exact appearances to which Sir W. Gull and Dr. Sutton had applied the term "hyalin-fibroid" formation, he examined carefully the vessels of the pia mater in twenty-three cases, and found in a considerable number the appearance to which they referred; he found also that a similar appearance may be artificially produced by soaking in glycerine or acidulated fluids. The thickening of the outer coat, however, bore no special relation to cirrhosis of the kidney, being absent in some cases, and present in others in which the kidneys were healthy. Thickening of the middle coat was present in a large proportion of his cases of chronic Bright's disease, whether cirrhotic or inflammatory. The appearances described by Dr. George Johnson admirably corresponded to what he regarded as the third stage of the inflammatory form; but in true cirrhosis he had never failed to find increase of connective tissue. He therefore believed in the correctness of the views advocated by Dr. Dickinson and other writers. In speaking of the clinical history, he founded his observations upon two tabulated statements: one, giving the complications which existed in each of 36 cases examined after death; the other, showing the leading clinical features of a series of 20 cases which he had examined closely during life. From these tables he showed that the disease—i. e., true cirrhosis—is essentially chronic; that it specially affects the male sex; that it is most common between the ages of forty and sixty, but occurs not unfrequently between twenty and thirty, or even at an earlier age; that it is specially connected with intemperance, while the other forms of Bright's disease are not; that it is also associated with lead-poisoning and with gout; that its origin is insidious, marked by no definite symptoms, and its course very chronic; that it is untended by dropsy, unless in advanced stages or when inflammation is superadded; that the quantity of urine is at first natural or small, although frequently greatly increased in the advanced stages; that the specific gravity is generally low, and the quantity of urea diminished, while a few hyaline and granular tube-casts may usually be found on careful examination; that as the disease advances, the heart becomes hypertrophied, the arteries thickened, their muscular coats increased; that hemorrhages are common, especially from the kidneys, the nose, and the uterus; that there is a marked tendency to gastric derangement and sometimes to diarrhoea; that bronchitis, congestion, oedema of the lungs, are frequent results, and often prove fatal; that among the nervous symptoms neuro-retinitis, convulsions, severe headache, and coma are frequent results, delirium and acute mania more rare; that the disease often exists for years unsuspected, and is only discovered when important complications, especially those of the nervous system, occur.

Dr. Sutton remarked that Dr. Grainger Stewart said that he had found the outer coats of the arterioles thickened by fibroid material, but he had failed

¹ Read at the Forty-first Annual Meeting of the British Medical Association, held in London, August, 1873.

to find this change in the vessels of the pia mater in some cases where the kidneys were granular and contracted; and he had found the vessels in this manner diseased where the kidneys were not contracted and granular. Dr. Sutton had also observed that the arterioles of the pia mater were not thickened in some cases, where the kidneys were granular, but the capillaries seemed altered and thickened by homogeneous or fibroid material; and in some of these cases where the vessels of the pia mater were seemingly healthy, he found hyalin-fibroid changes in the arterioles of the skin and other parts. In some cases, the only part of the body microscopically examined was a small piece of the pia mater. It was therefore possible that the vascular disease existed in other parts and escaped notice. In by far the majority of the cases in which hyalin-fibroid vascular changes were found, the kidneys were granular and more or less contracted. In some, the kidneys were healthy, but the heart was hypertrophied, as in Bright's disease; and in two cases this vascular disease was found in connection with atrophy of the brain, whilst the kidneys were healthy and the heart but little or not at all hypertrophied. These facts led to the conclusion that the fibroid changes might be local or general; and taking into consideration the clinical, etiological, and histological facts of the disease, it seemed that this morbid state, for which the term "arterio-capillary fibrosis" was suggested, might begin in the kidneys, the pia mater, brain, lungs, or other parts. It was apparently a common morbid condition after the age of fifty; and persons in whom the vessels were undergoing these fibroid changes, might die not only of kidney-disease, but of other local affections. Dr. Sutton further said that there were other questions in Dr. Grainger Stewart's paper to which he would have an opportunity of referring in a communication which Sir William Gull and he proposed soon to place before the profession.

Dr. Dickinson generally assented to the views expressed in the paper, but wished to remark upon one or two points. He understood Dr. Grainger Stewart to express the opinion that the kidney sometimes acquired a granular surface from disease limited to the tubes. He had seen many instances in which the kidney had wasted in consequence of disease thus limited, but believed that granulation of surface, restricting this term to the production of alternate elevations and depressions, did not occur except as the result of intertubular fibroid thickening, with subsequent contraction of the interstitial growth. This fibroid thickening was common in the ordinary form of granular degeneration, and was found also in lardaceous change. He believed that nodulation of surface, in which sense he used the term granulation, was always dependent on excess of fibroid growth. This, no doubt, sometimes took place in kidneys primarily affected by disturbance limited to the tubes—the change in these cases had extended from the tubes to the interstitial tissues. As a general law, granulation—limiting the term to superficial nodulation—implied fibrosis, though this fibrosis might spring from different causes. When the kidney had shrunk from simple destruction of the tubes, the surface, though not always perfectly even, was never affected as described. The greatest interest at present attached to the relation of the thickening of the arteries to renal disease. He had no doubt that these vessels were, under renal disease, thickened throughout their whole structure, in their fibrous coats as well as in their muscular. He had satisfied himself that the fibroid thickening described by Sir W. Gull and Dr. Sutton was a pathological fact, and not the result of reagents. He considered the change in the arteries to be of a complex kind—hypertrophy associated with alteration and degeneration of structure. The question next arose as to the relation of this arterial change with renal disease. Dr. Bright considered the hypertrophy of the heart found with granular degeneration of the kidney to be due to a change in the blood, which caused it to pass with increased resistance through the capillaries. Dr. George Johnson attributed the thickening of the vessels to efforts which they made to keep the blood out of the tissues, while the heart became hypertrophied by its endeavors to force it in. Thus the heart and the arteries were hypertrophied by mutual conflict, as if animated by antagonistic volition—a view which presented nature in an inharmonious attitude. Between

the heart and the arteries we could not tell which to encourage or to which to wish success. At the same time, though he did not accept Dr. Johnson's explanation, he gave him full credit for his observation of the arterial thickening. With regard to the view of Sir W. Gull and Dr. Sutton, according to which the heart and the kidneys were affected simultaneously, but independently, as the result of general fibrosis, further observations were needed. Some objections could be urged to this view, especially the general absence of fibrotic change, save in the kidney and the arteries. The liver was rarely cirrhotic in the cases in question. Then, again, the arterial affection was occasionally found where there was reason to suppose that the kidney had suffered in consequence of a purely local change, such as obstruction caused by a stone. He was disposed to look upon the arterial change as consequent upon the renal, rather than as connected with it only as having a common origin. He thought the renal condition was primary, the arterial secondary, the hypertrophy of the heart tertiary. A less degree of the arterial alteration was sometimes found with kidneys affected otherwise than with granular degeneration. When granular degeneration existed, the arterial change was, as far as he had seen, always present. Two cases of this disease, fatal under the age of fourteen, had come under his notice; in both the arterial change was marked. In such cases it was not easy to recognize any influence allied to senility. Any conclusion on the subject, however, he regarded as only provisional, not that the subject involved any special difficulty, but because problems were involved which required time for their solution.

Dr. W. Roberts (Manchester) said he was hardly prepared to take part in a discussion which turned wholly on pathological facts. His attention had been called more especially to the clinical aspects of the malady; nevertheless he was quite prepared to say that the reception which Sir W. Gull and Dr. Sutton's paper had met was hardly justifiable. He had listened to the paper and the remarks on it with great interest.

Dr. Gairdner (Glasgow) said that, like the last speaker, he was scarcely entitled to take part in a purely pathological discussion, as, his opportunities of continuous study, from the anatomical and histological point of view, had of late years been few, and most of the disputed facts referred to were beyond his personal knowledge. He had, however, listened with great interest to Dr. Grainger Stewart's paper, and was disposed to concur in many of his conclusions. There was obviously a difference of opinion as to the use of the term "cirrhosis" in the case of the kidney, and this encouraged him (Dr. Gairdner) to remark that, in his own early studies upon the subject, he had been by no means convinced of the occurrence of *primary* intertubular changes in these cases, being rather of opinion that the apparent excess of the fibrous element was usually, if not always, the result of atrophic changes in the other elements, and of retrograde metamorphosis in the tubular and vascular tissues. The granulations, so-called, were simply the still pervious, or, at all events, turgid tubules with their contents, surrounded and demarcated from each other by masses of shrunken and atrophied convolutions, in which fibroid tissue represented the remains of all the other elements that had in great part disappeared. Dr. Grainger Stewart appeared to recognize this as, at least, one way in which kidneys might become granular, but he argued for a distinction from this of what he called "true cirrhosis," the latter being always dependent upon intertubular changes, as described by Virchow, and also by Dr. Dickinson, who, however, thought that all cases of nodulation or of granulations proper were due to primary intertubular changes. It was necessary to remark that the word granulation is often used equivocally, the yellow opacities, so well figured by Dr. Bright, and which we now know positively to be dependent upon degenerative changes within the tubules, being as often as not called granulations; while Dr. Dickinson's use of the word referred entirely to the nodular condition of the surface, which was undoubtedly atrophic, and had no necessary connection with the other. Notwithstanding the high authorities to whom he had referred, he (Dr. Gairdner) was still not entirely convinced of the intertubular origin of granulations, but, if Dr. Stewart should succeed in establishing the pathological distinction and mode of origin of his "true cirrhosis," then the

clinical history he now gave of it, and the view so clearly presented of its complications and pathological associations, would be fruitful in valuable results. To him (Dr. Gairdner) it had always appeared that the majority of cases of chronic Bright's disease were not of *intertubular*, but of *intratubular* origin, and their true analogue was to be found in the various forms and stages of chronic capillary bronchitis, in which we find—(1) A leakage of the albuminoid elements of the blood, followed by (2) various degenerative changes in the epithelium, etc., extending over the interior of the ultimate bronchi, air vesicles, and intercellular passages; (3) Atrophic changes, leading, in some cases, to over-expansion; in others, to an almost entire disappearance of the textures of certain lobules, with correspondingly impaired function; (4) A frequent appearance of fibrous overgrowth, both in the emphysematous and the condensed and atrophied parts, between the remaining active lobules. In one point he was able personally to corroborate Dr. Grainger Stewart's clinical observations on the atrophied or cirrhotic kidney. It was a surprising fact, but still no less a fact, that a kidney in this condition might continue secreting an over-copious though depreciated urine, long after it had apparently ceased to contain almost any sound secreting structure, and after its actual bulk had been reduced probably by two-thirds.

Dr. J. M. Fothergill (London) said that some time ago he held several conversations with Professor Traube, of Berlin, as to the changes in the vascular system which followed upon chronic Bright's disease. Traube held that there were two forms of change—1, a degeneration of the coats; and 2, a true hypertrophy of the muscular walls of the arterioles. According to Ludwig and himself, this latter change was brought about by repeated spasm in these small vessels, from the action of the products of histolysis in excess in the blood upon the vaso-motor centre. This change in the arterioles caused obstruction to the blood-flow, and hypertrophy of the left ventricle followed; and the action of the two hypertrophied muscular ends of the arterial system against each other led in turn to overdistension of the elastic tubes connecting them, and so to atheroma. Thus rupture of a vessel in the heart was common in these cases. As to Dr. Grainger Stewart's remark, that in time all kidney-disease tended to cirrhosis, he thought we should not overlook the effect of sustained hyperæmia in leading to an excessive growth of connective tissue. Such growth occurred in the brain, lungs, liver, and spleen, after prolonged hyperæmia; and its presence in the kidney under similar circumstances was but what might be expected.

Dr. George Johnson said that to discuss in a crowded room questions based upon minute points of anatomy, without the opportunity of appealing to specimens actually present, was in a high degree unsatisfactory. He would not occupy time by entering upon the disputed question of the intertubular character of the changes in the small granular kidney. He was prepared at any time to demonstrate by the aid of numerous specimens that the chief and the essential changes were intratubular; and he remarked that those who adopted Virchow's doctrine did not even attempt to explain the striking appearances presented by the tubes which have been deprived of their epithelial lining—appearances which many years ago had formed the subject of a friendly controversy between Mr. Simon and himself, with reference to the minute anatomy of renal cysts. He was glad to hear that Dr. Grainger Stewart recognized the reality of hypertrophy of the minute arteries. Dr. Johnson, however, wished to say emphatically that the arteries of the pia mater, which had been chiefly examined by Dr. Stewart, were less constantly and decidedly hypertrophied than those in the kidney, the skin, and in the mucous membrane of the intestines. Hypertrophy of the arterial walls implied a proportional overgrowth of all the tunics, of the external fibres as well as of the middle muscular. Dr. Johnson admitted the existence of atheromatous fatty, calcareous, and lardaceous degeneration of the arterial and capillary walls. He admitted, as did all pathologists, that inflammatory and tuberculous exudations often occur abundantly in the fibrous tunic of the minute arteries; but after a careful examination of the specimens exhibited by Dr. Sutton the day before in the museum, he saw in them nothing pathological. Three specimens of pia mater arteries mounted in glycerine.

had the fibrous tunic of the arteries distended and rendered hyaline; while in a fourth specimen, preserved in strong spirit and water, the arterial tunics were all corrugated, and the external tunics rendered coarsely fibrous; the changes being all artificially produced.

Mr. Sibson remarked that the discussion had been carried on by six of the men who had done more than any others to advance our knowledge of this important question. Although some of the speakers held strong and original views, yet each evidently aimed not at the triumph of his own views, but at the discovery of truth. Indeed, all felt that, if any two of the speakers, however apparently opposed in opinion they might be, came together quietly, as Dr. Johnson had suggested, with specimens and microscopes before them, they would, without difficulty, ascertain the truth and come to a common opinion. It was evident from the important communication of Dr. Grainger Stewart, containing a great body of facts bearing on the subject, and the discussion that ensued, that two different conditions of the artery were under examination. One of these conditions was degeneration of the walls of the small arteries, which was apt, like atheroma, dilatation, and aneurism of the aorta, to take place in spirit-drinkers, which might be present with contracted kidney, that kidney-disease being also caused by spirit-drinking, but which might be, and often was, present without contracted kidney. The series of cases occurring in the Edinburgh Royal Infirmary, and observed and brought forward by Dr. Grainger Stewart, conclusively supported this view. The other condition was thickening of the muscular structure of the artery, which was present in the majority of cases of contracted kidney, though absent in a considerable minority of them, which was generally associated with thickening and enlargement of the left ventricle, and which was seldom observed in cases in which the kidney was not contracted. As a clinical worker, the speaker had for years observed, and carefully recorded, the effects of contracted kidney on the condition of the heart and arteries. In those cases he generally observed, though not always, tension of the arteries, evidenced by feeling, not the pulse, but the radial artery itself, tight and full under the finger, and capable of being moved backwards and forwards, and yet not presenting the hard, beaded surface of atheromatous artery; the pulse being, at the same time, very feeble and soft, and in marked contrast to the tight condition of the artery. The sphygmographic tracings of the pulse gave every evidence of the great arterial tension. The ascending aorta presented the signs of great tension and enlargement. The first sound was very feeble, often quite absent, owing to the blood being gradually injected into an artery already tense with blood, and the second sound was loud, ringing, and extensive, especially to the right of the upper sternum. The impulse of the enlarged and tense artery could, in some cases, be felt beating in the second right spaces; and in these and other cases in which the pulsation of the artery could not be perceived, sphygmographic tracings were obtained by placing the sphygmograph and, on some occasions, the modified cardiograph over the ascending aorta. In some instances the size of the aorta increased to such an extent that a diastolic aortic murmur was audible, owing to slight regurgitation from insufficiency of the aortic valve and, in one case recently observed, the diastolic murmur appeared and disappeared on several successive occasions, the alternate appearance and disappearance of the murmur being evidently associated with the alternate increase and diminution of the tension and size of the arch of the aorta. The left side of the heart was, at the same time, in these cases, enlarged and beating over a large area, and with increased force, and doubling of the first sound was audible over the interventricular furrow, and sometimes over both ventricles, the *finer* first sound due to the closure of the contraction of the right ventricle, the second *finer* sound to the delayed closure of the contraction of the left ventricle, owing to the difficulty with which it emptied itself into the tense arteries, and the increased time therefore required. The tension of the arteries, the thickening of their walls, the enlargement and thickening of the left ventricle, were all due to one common cause—the difficulty of sending the poisoned blood, poisoned owing to the kidney disease, through the smaller vessels. The paper read by Dr. Grainger Stewart, and the discussion, had done much to

make this difficult, and apparently contradictory, question clear, and to show that we have to do not with one, but with two conditions—one, degeneration of the arteries; the other, thickening of their muscular fibres. The thanks of the Section were eminently due to Dr. Grainger Stewart, and to the gentlemen who had taken part in the discussion, for this important contribution to our knowledge of disease.

ART. 69.—*Chronic Bright's Disease in a Syphilitic Patient.*

By REGINALD SOUTHEY, M.D.

(*British Medical Journal*, October 25.)

At a meeting of the Clinical Society of London, October 10th, Dr. Southey read the account of a case of chronic Bright's disease in a young man, aged twenty-one, the subject of syphilis. The patient had had scarlet fever when a child, and had suffered with dysentery several years previously. The first symptom which led to his admission into St. Bartholomew's Hospital was erysipela-tous inflammation of the left ankle, following a trivial injury. His urine was loaded with albumen, but was always excessive in quantity; its daily average was 50 ounces, but on many days more than 70 ounces were passed. His temperature was invariably at or above normal, and he presented very trivial anasarca during his illness. Generally his appetite was good, but at times he suffered in the morning, sickness, and had severe colicky pains. Among the anomalous symptoms noted were the following; bright red patches of erythema came out on different portions of his body, sometimes on the face, at others on the trunk and limbs; they were attended by febrile symptoms, and coppery-colored stains marked their situation for awhile. Their disappearance was usually attended with the most profuse perspirations or critical sweats. These rashes, as well as transient mottlings of the arms and legs, and sudden transitory attacks of acute pain in the calves, loins, and back, were attributed, by Dr. Southey, to the syphilitic poisoning, of which there was further confirmatory evidence in amygdaloid cervical glands, and scars of old buboes in both groins. After being two months under observation, during all which time the microscopical characters of the sediment of his urine varied very little, fatty and granular casts of varying size being always present, although never in large quantity, he was suddenly seized with rigors of a most severe kind. His temperature rose to 103.2; he complained of general pains in different parts of his body, and especially of headache, localized behind his ears. This was followed by profuse sweating, which afforded some relief. For three successive days these ague-like attacks were repeated. The abdomen then became tympanitic and tender, and acute peritonitis supervened, to which he succumbed after a few days; his temperature gradually rising up to 106, which it reached twelve hours before death. At this high temperature he passed into an insensible state, with protruded eyeballs, dilated pupils, and stertorous breathing; but up to this period, his intellectual faculties had never been clouded, and he never exhibited any epileptic convulsions. The necropsy revealed old as well as recent peritonitis, large and soft liver and spleen, large pale fatty kidneys, the pair together weighing 17½ ounces. All the viscera were examined by iodine, but did not furnish any amyloid reaction.

ART. 70.—*Treatment of Diabetes by Arsenic.*

By MM. A. DEVERGIE and FOVILLE.

(*La France Médicale*, Nos. 22, 23, 24.)

MM. A. Devergie and Foville (fils), after alluding to the different modes of treatment suitable for different cases of diabetes, and even in different stages of the same case, and to the difficulties in regulating the diet so as to keep out articles capable of being transformed into sugar, point out how very few efforts are made to attack the cause of the disease, and how important it would be to

discover a remedy which would in many cases diminish the sugar in the urine. This power they claim to have discovered in arsenic, and they support their view both by clinical results and physiological deductions. These we briefly abstract. Devergie, about twelve years ago, had to treat an excessively bad case of prurigo vulvæ. Nearly every remedy had been tried unsuccessfully. Arsenic was tried, and at the same time diabetes was diagnosed and verified. Both diseases rapidly improved under the use of the arsenic. Since this Devergie has in many other similar cases had the same results, both in cases accompanied by prurigo and also in diabetic cases in which no prurigo existed. He, however, advises that in every case of prurigo in the female the physician should pay attention to the condition of the urine. Dr. Foville (père) employed arsenic in diabetes first in 1857 with success, the patient only dying recently, and has since used it in many cases, some of whom notice the recurrence of the diabetes on the cessation of the arsenic. Encouraged by these cases, Dr. Foville (fils), in 1868, expressed his strong confidence in the powers of arsenic in diabetes. Drs. Jaccoud and Tison give equally favorable opinions. On the other hand, other authorities have not been equally successful—e. g., Bouardel, Berndt, and Trousseau. These facts would prove that there are different forms of diabetes, in some of which the use of arsenic is valuable, in others it is unsuccessful. The best form of the drug is Fowler's solution, and it should be given twice daily in doses gradually increasing from one to six or seven drops; these should be continued for a considerable time, only interrupting it now and then for a few days, and then beginning again with half the dose at which it was left off. The physiological presumption on which the use of arsenic is based, is that the cause of diabetes being a permanent relaxation of the capillaries of the liver, due to paralysis of the sympathetic nerve, we must treat this paralysis; and for this arsenic seems very suitable, from the good effects of that drug in intermittent fever, in exophthalmic goitre, etc. Cahau, in a memoir which obtained a prize from the Institute, attributes to arsenic a special power in functional derangements of the vaso-motor system.

ART. 71.—*On the Etiology of Albuminuria as deduced from an Analysis of 200 Consecutive Cases.*¹

By GEORGE JOHNSON, M.D., F.R.S.

(*The Lancet*, June 7, 1873.)

About ten years since the author had made a tabular analysis of nearly 300 cases of albuminuria. In each case special inquiry had been made as to the probable exciting cause of the malady, and in the tabular statement of the main points in the history of these cases, one column is set apart for the etiology of the disease. Some recent discussions on the influence of alcohol in exciting diseases of the kidney had led him to refer to his analysis of cases for evidence bearing upon this question; nine-tenths of the cases analyzed belonging to the class of hospital or dispensary patients. Taking 200 consecutive cases, it is shown that the various etiological influences, single and in combination, come under no fewer than 33 heads. It is also shown that scarlet fever, intemperance, cold, wet, and gout—these influences, either single or combined, account for 120 cases out of 200, or 60 per cent. Thus, albuminuria was probably the result of scarlet fever in 24 out of 200 cases, or 12 per cent.; of intemperance in 28, or 14 per cent.; of intemperance and gout in 12, or 6 per cent.; of intemperance and cold in 12, or 6 per cent.; of gout in 8, or 4 per cent.; of cold and wet in 23, or 11.5 per cent.; of cold in 13, or 6.5 per cent. It is shown that intemperance, either alone or combined with other influences, was the probable cause of albuminuria in 58 out of 200 cases, or 29 per cent. Of these 58 cases, in 28 intemperance was believed to be the sole cause; in 12 intemperance with gout, in 12 with cold, in 4 with syphilis, and in 2 with

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, May 27.

lead. Cold, either alone or combined with other influences, was the exciting cause of albuminuria in 25 per cent. of the cases. In 6.5 per cent. cold alone is believed to have been the cause of albuminuria, in 11.5 per cent. cold and wet, in 6 per cent. cold and intemperance, and in 1 per cent. cold and fatigue. It appears, then, that albuminuria was associated with scarlet fever in 12 per cent. out of 200 cases, with exposure to cold and wet in 25 per cent., and with intemperance in 29 per cent.

The following table shows the proportion per cent. of deaths, recoveries, and of persistent albuminuria in cases resulting from—1. Scarlet fever. 2. Exposure to cold and wet. 3. Habits of intemperance.

	Scarlet Fever.	Cold and Wet.	Intemperance.
Death	45.83	27.5	67.23
Recoveries	50	38.88	10.36
Persistent albuminuria	4.16	33.33	22.41

Of the 58 intemperate patients, 11 were women and 47 were men. In 5 cases out of the 47 men the occupation had not been recorded. Of the 42 men whose occupations had been noted, 5 were waiters. The remaining 37 intemperate men had no fewer than 30 different occupations, not one of them connected with the manufacture, sale, or distribution of alcoholic liquors. Evidently, then, it is not right to assume that men in the class of hospital patients who are not engaged in the liquor trade, and not notorious drunkards, may be placed in a "non-alcoholic" class.

The excess of Bright's disease amongst males, as compared with females, is explained by the fact that, as a rule, men are more intemperate and more exposed to cold and wet than women. Amongst the cases analyzed, 76 per cent. were males and 24 per cent. females. Out of the 58 cases associated with intemperance, 83 per cent. were males; and of the 36 resulting from cold and wet, 77 per cent. were males.

In addition to the causes of albuminuria before referred to, the following influences appear to have been causative, the figures showing the proportion per cent. in a total of 200 cases: Typhus fever, 4; typhoid fever, 1; erysipelas, 1; pyæmia, 1; measles, 1; rheumatic fever, 1; purpura, 1; cholera, 2.5; whooping-cough, .5; diabetes, .5; syphilis, 3; phthisis, 2; venereal excesses, 5; poverty and hard work, 2.5; emphysema and bronchitis, 3.5; morbus cordis, 3.5; scrofulous disease of the bones and joints, 2.5; scrofulous abscess, .5; pneumonia, .5; lead, 1; tropical climate, .5; hydrophobia, .5; mental anxiety, 1.5; pregnancy, 2.5. The result of the author's later disease would be to add to this long list of causes of albuminuria, particular reference being made to diphtheria, relapsing fever, malarious fevers, yellow fever, and to certain forms of dyspepsia, either with or without an excessive consumption of alcohol or of tobacco, as causative of albuminuria and degeneration of the kidney.

Dr. Dickinson said much caution was necessary in tracing albuminuria to drink. Both albuminuria and the use of alcohol were so common in this country that it was inevitable that a considerable portion of those so suffering might be, unless drink was a sure preventive, charged with intemperance. This would happen with any disease which affected adults; with a parasitic affection, for instance, like scabies, a large number of the sufferers could undoubtedly be convicted of alcoholic excess. Any such tabulations as those just given, compiled with the object of tracing renal disease to drink, must be received with much hesitation. The figures implied no more than that, of a certain number of persons, so many could be accused of the liberal use of alcohol. Looking at the statistical details, it would be seen that intemperance was assigned as a cause in 29 per cent. (more than one-fourth of all the cases)—an incredible proportion, considering how many women and children must belong to the number. According to that, intemperance was a more common cause of albuminuria than scarlatina, cold, or any other cause. Other causes had obviously been underrated; phthisis was credited with only 2 per cent., syphilis with 3 per cent. The cases of lardaceous disease, so common in hospital practice, amounted altogether, so far as could be judged by the statement, to only

8 per cent. Diseases of the heart, frequently as such disturbances made the urine albuminous (and the paper dealt only with alteration of the secretion), caused albuminuria only in 3 per cent. Lead was credited with only 1 per cent.—a startling conclusion, for lead was the most injurious of all foreign bodies as a cause of renal disease. It was the most common cause of granular degeneration of the kidneys. Of forty-five men, hospital patients, taken without selection save that they all died with granular degeneration, ten were workers with lead. Then, on the reverse side, of workers with lead dying of all causes, accident or disease, during seven years, more than a half had granular kidneys. This connection was well known to those who had to do with hospital patients, and yet was represented by only one per cent. in the tables. Thus other causes appeared to have been dwarfed so as to give greater prominence to alcohol. Then Dr. Johnson had examined 200 cases, and had found the cause in every instance. A great number of these must have been granular degeneration, the result of hereditary, climatic, senile, or other obscure influences. He had examined cases, and could come to no conclusion as to the cause in more than a half. Again, if alcohol had this overbearing influence, then all over the world renal disease ought to be more or less common; but this was not found to be so; it varied according to climatic influences. From the army returns we could tell the amount of renal disease in our garrisons throughout the world; and albuminuria did not depend so much on alcohol as on climate. It was a disease of temperate climates, and those chiefly where the temperature was most variable. Not temperance but temperature gave immunity. Again, renal disease should preponderate in those cases where there was a peculiar access to alcohol; but it was not found to do so. In a paper he had read before the Society he had endeavored to prove this. Dr. Johnson had taken exception to his headings of alcoholic and non-alcoholic with reference to the two classes, as though he had inferred that the use of liquor was all on one side. He had only wished to show that there was a sufficient excess of liquor on one side to influence the pathology. If this were denied, he would like to ask why potmen, draymen, etc., died in great numbers between thirty and forty years of age? Why they suffered as they did from disease of the nervous system? why their serious inflammations suppurred? why their wounds refused to heal? and, above all, why they had cirrhosis of the liver nearly three times as often as the class with which they were compared? The fact must be evident to every one that those persons who drank more than others suffered more from it, and might be fairly used to supply some information as to its consequences. The comparison was not so neat as one between drunkards and teetotallers. He did not use that, not being able to get at it. In conclusion, he thought it clear that alcoholic drinks caused a red enlargement of the kidney, and had a certain effect in bringing on granular degeneration—a change analogous to cirrhosis of the liver; but the effect of drink in this respect was more marked upon the liver. Alcohol sometimes, but rarely, set up acute tubal nephritis. It had no power to cause lardaceous disease. The effect of alcohol upon the kidneys had been very much exaggerated, and never on more insufficient evidence than in the paper just read.

Mr. Henry Lee did not think the discussion should be altogether on the side of the physicians. Surgeons also saw something of albuminuria, and that independently of disease of the kidney, as from congestion of the urinary organs, albumen in urine resulted. He remembered a case, some years ago, of a patient who was supposed to have disease of the kidney. A consultation was held, and the man was sent to India to die of chronic albuminuria. He returned after a time, and died of apoplexy. There was no disease of the kidney, but an intussusception of the ureter; the albumen was persistent. Then albumen was often met with from inflammation of organs. With regard to alcohol he thought many things might do quite as much harm, as the balsams, turpentine, etc., as are found in gin.

Mr. Callender said he would like to ask Dr. Johnson about the prevalence of albuminuria among Mussulmans. It was said to be exceedingly rare. He thought this might have some bearing on the question, as they were by practice teetotallers.

Sir William Gull said he was astonished that the Society should be discussing the causes of albuminuria; he looked upon it as a sign of retrogression. He was quite surprised to hear albuminuria talked about as though it could be settled by statistics. Dr. Johnson said he had ascertained the cause in two hundred cases. What Dr. Dickinson had said was fully the case; in two cases out of five the cause could not be found. It was frequent in boys above puberty, but it was not found out because it was not looked for. But in weak, delicate patients, the urine might be loaded with albumen; what was the cause he could not say. Then, again, in men over fifty-five, in the disease he had brought forward, "arterio-capillary fibrosis," the causes could not be made out; he believed it was due to changes in the vessels quite apart from the kidney, and not from alcohol, cold, etc. Then cold was said to be a cause; but who had not had a cold? And because a man got a cold, did he get albuminuria? He thought such statements too vague. We ought to consider the forms, etc., of the kidney disease, the state of the urine, etc.; for although albumen was present in the urine, yet, as long as the salts of the urine were secreted, health was maintained. This must be thought of; the causes were not known, and were often very remote.

Dr. George Johnson, in reply, said that Dr. Dickinson thought the greater part of the paper was directed against him; it was against what he thought was the necessary conclusion from Dr. Dickinson's paper. Briefly, Dr. Dickinson did this; he took the post-mortem records for thirty years, and divided them into those who had traded in, or had to do with liquor, and those who had not. These were not general patients, but those who had died in hospital. Intemperance was said to be more among the first than the latter, who were not in the liquor trade. But among hospital patients intemperance was very common, nearly three-fourths intemperate, and their diseases were dependent upon that. So he did not think it was sufficient to take post-mortem examination, but the habits of each patient should be inquired into, and not assumed that men not in the liquor trade had not had access to alcohol. Then Dr. Dickinson was astonished at the small number of cases from heart disease. The two were often associated, but heart disease was more often the consequence than the cause of Bright's disease; the renal disease the primary, and the heart disease the secondary. So with regard to lead; many men had been exposed to it; but painters were often drinkers, so he attributed to alcohol what Dr. Dickinson said was due to lead. It was hasty to assume that every plumber who got kidney disease got it through lead and not through alcohol. Sir William Gull was astonished that albuminuria should be discussed there to-night: he had only brought forward the exciting causes so as to afford trustworthy results. Then he was surprised that the cause had been discovered in so many cases: he had only taken two hundred cases in which a cause could be found, and had omitted the others. As to the cause of albuminuria in the young subjects of whom Sir William Gull spoke, though at times it was difficult to find it, yet often it could be traced back to scarlet fever or measles. Sir William Gull thought a mere chill could not be a cause; but if cold caused other diseases, as pneumonia, etc., why not albuminuria? But on this point Sir William Gull and Dr. Dickinson disagreed, Dr. Dickinson attributing much more influence to cold than to alcohol.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 72.—*On Acute Febrile Pemphigus.*

By M. HORAND.

(*Annales de Dermatologie et de Syphiligraphie*, No. 6, 1873.)

The author reports two cases of this affection, and concludes his contribution with the following remarks:—

"Is this affection an eruptive fever, as some authors assert, or is it a hitherto unclassified special exanthem? I propose now to deal with these two questions.

"Is it an eruptive fever? In my two cases neither the febrile disturbance nor the eruption comported themselves as in an eruptive fever. The eruption manifested itself in successive attacks—a course never observed in scarlet fever, measles, or smallpox. The pulse and temperature tracings also differ essentially from those which characterize these eruptive fevers. Thus, with my two patients, the prodromic fever was much less intense. The frequency of the pulse and the elevation of the temperature coincided with the generalization of the eruption, and also with the generalization of a certain number of bullæ. Besides, acute pemphigus is neither contagious nor inoculable, and these two characters are not the least important for the distinction which I endeavor to establish. The resemblance between acute pemphigus and the eruptive fevers, with regard to course, is found to be not very close on study of the details. Therefore, for the reasons just given, it seems to me that acute pemphigus cannot be assimilated to scarlet fever, measles, or smallpox. This is a view that has already been held by several authorities, including Gilibert.

"There exists, however, another exanthem, classed among the eruptive fevers, with which acute pemphigus presents numerous analogies. I allude to varicella. Franck has admitted this analogy, and has associated varicella with pemphigus, under the name of pemphigus variolodes. Gilibert agrees in this view, and holds that acute pemphigus is allied to varicella, and that it especially resembles the third variety of the latter affection.

"Varicella in fact, like acute pemphigus, is neither contagious nor inoculable, as has been proved by numerous experiments made by Trousseau, Delpech, and many others. Moreover, there exists a variety of varicella, to which has been given the name of bullous or pemphigoid varicella, a variety which, according to Gintrac, is not very rare, and which resembles pemphigus not only in the size of the bullæ, but also in the fact that the eruption comes on in successive attacks, which prolong the duration of the disease. Varicella, stated Trousseau, may be combined in the form of veritable pemphigus.

"Numerous reasons favor the view of the alliance of varicella and pemphigus. But—I should at once state it—varicella is not classed among the eruptive fevers, except by authors who are as yet undecided concerning the nature of the disease.

"If, then, acute febrile pemphigus cannot take a place among the eruptive fevers, does it constitute a special febrile exanthem? I do not think so. The disease, two examples of which I have described, and to which I have given the name of acute febrile pemphigus, is characterized by febrile disturbance and an herpetic eruption, the word herpetic being taken in the sense of vesicular. But M. Parrot, in an excellent work, published in 1871, grouped under the denomination of herpetic fever several diseases to which authors have given different names, such as synchic fever, continued fever, ephemeral fever, angio-tenitis, etc. The important characters of this fever, according to M. Parrot, are the close relations between the febrile disturbance and the herpetic eruption. In all cases the fever is the same, he says: it undergoes variations in quantity, but its quality remains identical. M. Parrot, it is true, does not speak of acute febrile pemphigus, but probably this is because he had no opportunity of observing this malady. However this may be, I do not hesitate to rank acute febrile pemphigus in this class, and this view might altogether remove the objection which may be stated against M. Parrot—which objection he has refuted in advance—with regard to the considerable disproportion which sometimes exists in herpetic fever between the cutaneous lesion and the general symptoms. But probably it may be asked why I do not rather regard acute febrile pemphigus as a generalized febrile herpes? This probable objection I will now endeavor to deal with.

"In 1865 my colleague, M. Boucaud, directed the attention of the profession to febrile herpes, and in alluding to a reported case made the following remarks: 'I am induced to place this multiple and febrile herpes among the pyrexia, and by the side of erysipelas and erythema nodosum—that is to say, by the side of non-contagious and relapsing eruptive fevers.' Subsequently, M. Coutagne studied and carefully described this febrile herpes, to which he gave

the name of generalized febrile herpes, distinguishing it from the herpetic fever of M. Parrot, and acute febrile pemphigus.

"It seems to me that nothing resembles more the herpetic fever of M. Parrot than the febrile generalized herpes of M. Coutagne. One case described by M. Coutagne as generalized febrile herpes, was actually referred to by M. Parrot as a case of guttural herpes, and four other cases presented very close analogies to cases of acute febrile pemphigus.

"According to M. Coutagne, acute pemphigus differs essentially from generalized febrile herpes. In the cases of acute pemphigus which he observed, the eruption, he says, never recalled to his mind that of herpes. The large size of the bullæ, the almost complete absence of areolæ, the presence and persistence of bullæ in parts supplied with thick dermis, such as the palms and soles, could not permit of doubt as to the diagnosis.

"M. Coutagne, on the one hand, does not seem to have met with true cases of acute pemphigus, and, on the other hand, the characters which he makes use of in order to distinguish acute pemphigus from generalized febrile herpes seem to be far from sufficient. From an histological point of view, the bulla in no respect differs from the vesicle, and the terms bullæ and vesicle only indicate more or less difference. The clinique often furnishes proofs, especially in cases of varicella, that vesicles may be met with which exceed in size a millet seed, the dimensions usually assigned to a vesicle. In my two patients, especially in the second, enormous bullæ coexisted with a great number of vesicles, both solitary and grouped. On the labial and buccal mucous membranes one meets only with vesicles, or at the most but very small bullæ. Moreover, M. Coutagne himself admits that the eruptions described in his reported cases belonged to that variety which is known generally under the name of phlyctenoid herpes.

"The absence or presence of an areola can no longer serve to differentiate generalized febrile herpes from acute febrile pemphigus. This areola signifies only that the contents of the vesicle or bullæ exercise such a pressure on the subjacent vessels, that the blood can no longer circulate in them. As I was able to observe in my own cases, it is to be met with both in the bullæ and in the vessel.

"With regard to the seat of the eruption, this is the same in acute pemphigus and in generalized febrile herpes. On turning to the cases reported by M. Coutagne, I find given as the seats of vesicles the lips, the tongue, the isthmus faucium, the conjunctivæ, the limbs, etc.: in my own patients all those regions were equally invaded.

"I have not found any differences in the periods of invasion and of eruption, such as have been described by M. Coutagne, for the temperature curves present close analogies. Finally, as in my patients, M. Coutagne made out in his cases, persistence of fever long after the appearance of the primary eruption, this being due to the successive attacks.

"Why then, I ask, separate acute febrile pemphigus from generalized febrile herpes, since these two affections have so many points of resemblance? In my two cases I had to deal with a generalized herpetic eruption in successive attacks, and with guttural manifestations and pyrexia. Why also separate generalized febrile herpes from herpetic fever?

"Let us, then, following M. Parrot, associate together conditions which do not differ from one another, and regard varicella, generalized febrile herpes, and acute febrile pemphigus not as distinct maladies but as simple varieties of herpetic fever."

ART. 73.—*On Traumatic Herpes.*

By M. VERNEUIL.

(*Gazette Médicale de Paris*, Nos. 20, 22, 23, 25.)

According to M. Verneuil the nerve lesion capable of giving rise to vesicular eruptions having the character of herpes or zona, is probably a neuritis, which may be spontaneous, or consecutive to an injury, a wound, contusion, compress-

sion, etc. Hence surgeons should count herpes among the complications which may present themselves in the course of treatment of injury or an operation: they must, in other words, admit a "traumatic herpes." Recognizing traumatism as a very general pathogenic cause, it is easy to understand that it may give rise to herpes as well as to erysipelas, tetanus, or any other accident of wounds; it remains to investigate the conditions under which this cutaneous manifestation may show itself. M. Verneuil endeavors to discover these conditions by the examination of a short series of cases: 1. A case of fracture of the base of the skull; lesion of several motor nerves; zona of the face. 2. A case of amputation of a finger; neuralgia of the stump; herpes of the stump and of the lips. 3. White swelling of the knee; fruitless efforts at conservation; very violent pains; amputation of the thigh; divers nervous accidents; herpetic eruption of the stump. 4. Hydrocele, double puncture, inflammation of the tunica vaginalis; herpes of the thigh; death. 5. Division of the soft palate (for removal of polypus); guttural and labial herpes. 6. Extirpation of the breast, labial and thoracic herpes; diphtheroid aspect of the wound; cure. After carefully analyzing these and other cases, Verneuil concludes that herpes may show itself during the evolution of an injury as an independent intercurrent affection; but that it may certainly also arise from that wound, and be really of traumatic origin. Three forms may be distinguished—peripheral herpes, contiguous herpes, distant herpes. It may show itself during the work of reparation—precocious herpes, or a long time after cicatrization—delayed herpes; it may or may not be accompanied by general phenomena. It follows either on the wound of a nerve-track, or of a ganglion, or of a common wound where the ends of the nerves are alone concerned. In certain cases, it may be explained by a traumatic neuritis; but in others either reflex action or blood change must be invoked. The prior hæmopathic condition of the patient seems to predispose to the development of traumatic herpes. Traumatic herpes may relapse; it may coincide with erysipelas, and simulate the vesicular variety of that disease. The development of precocious and febrile herpes is accompanied by a change in the granular membrane (which recalls what has been described under the name of diphtheria of wounds), and by a sharp but temporary hyperæsthesia of the wound. The prognosis of traumatic herpes is generally favorable except in the case of septicæmic hernia, but its gravity depends then on the general malady. Herpes at a distance is ordinarily fugacious, and does not compromise cicatrization. Peripheral herpes may be more tenacious; it follows the fate of the neuritis, of which it is only a symptom.

ART. 74.—*Case of Painful Neuroma of the Skin.*

By LOUIS A. DUHRING, M.D., Clinical Lecturer upon Diseases of the Skin in the University of Pennsylvania, and Physician to the Dispensary for Skin Diseases, Philadelphia.

(*American Journal of the Medical Sciences*, October.)

Under the name of painful neuroma of the skin, Dr. Duhring describes the following case, which has been under his observation for the past six years, and was kindly placed at his disposal by his friend Dr. F. F. Maury, in whose ward at the Philadelphia Hospital the man is at present.

"David W., aged seventy, Irish, boiler-maker, but of late his trouble has incapacitated him for any kind of labor. His previous health has been excellent, and none of his family or relatives ever presented any disease similar to that from which he is suffering. About ten years ago he first noticed the presence of a few small round nodules, situated in the skin of the left shoulder, attended with decided itching, but without pain. These nodules soon multiplied and increased in size. For four years they continued to appear in numbers, and by the end of this time the arm and shoulder were well studded with them. For the past five years their increase in number has been slower, but new ones have continued to appear up to the present time. Some of the older nodules have grown somewhat in size during the past five years. He is quite

positive that it was not until three years after the first elevations were noticed that there was any pain in or about them. Such are the important points in connection with the early history of this case. Since I first saw the patient, six years ago, there has been but little change in the appearance of the growth, with the exception that new scattered tubercles have developed at various points.

"The disease is now characterized by the presence of numerous small, rounded, hard nodules, occupying the left scapular region, shoulder, and outer surface of the arm, as far down as the elbow. They are incorporated with the skin and subcutaneous tissue; vary in size from that of a pin's head to that of a large pea, and at certain points are situated closely together. They are elevated from one to four or five lines above the level of the surrounding healthy skin, and present a marked tubercular, knotty appearance. They are firmly seated in the skin, and are in no instance pedicellated. Over the shoulder and arm, at the insertion of the deltoid muscle, the tubercles are closely packed together, and the intervening skin, though not tuberculated, is involved with the same new growth. At this point it presents a solid mass of hard tubercular tissue. The surface is rough and nodular; about the scapular region, as well as further down the arm, the nodules are more scattered and isolated, the skin between them being perfectly normal. The tubercles are scattered in irregular form, and without definite arrangement. They do not occupy any particular nerve tract. The affected side of the body, including the arm, corresponds in size with the healthy side. The diseased skin varies in color according to locality. Where the affection is most marked, about the shoulder, the tubercles are of purplish-pink color, with a somewhat mottled appearance. Where they are isolated, their color is pinkish and lighter in shade, being more of the hue of the normal skin. But the color of the whole surface is subject to great variations, according to the position of the limb, external applications of one kind or another, as cold or heat, and the subjective symptoms. The tubercles are here and there covered with fine yellowish-white laminated scales, consisting of imperfectly-formed epidermis, which are firmly attached, and cast themselves off only slowly. These scales give to some of the older tubercles a whitish, glistening appearance. There are no tubercles or signs of the growth on the under surface of the arm, from the axilla down to the elbow. The skin here is smooth and normal in every respect, and can be freely handled without producing any uneasiness or pain. The tubercular mass about the shoulder and arm is warmer to the touch than other portions of the arm. During a paroxysm the part is quite hot, and remains so for some time after the pain has subsided. The nodules are all more or less painful when touched or pressed upon. There are no blood-vessels visible upon the surface of either the central mass or any of the distinct tubercles.

"The original starting-point of the affection appears to have been at or about the insertion of the deltoid muscle, for here the tissues are now thickest and the pain most severe. During a paroxysm of pain the tubercles and skin involved change color rapidly, passing through various shades until they become purplish and even livid at times. As the paroxysm is ushered in, and while it is at its acme, the parts are seized with a quiver, which extends over the whole arm and is paroxysmal, occurring every few seconds during the height of the attack.

"Intense pain of a paroxysmal nature constitutes the distressing feature of the disease. This was developed gradually, first showing itself about three years after the appearance of any external manifestation, and soon increased in severity, keeping pace with the development of the disease. For the last five or six years the pain and paroxysms have been about the same in degree and character. The pain during a paroxysm is excruciatingly severe, and from my repeated observations of these attacks I doubt if any words can fully express the amount or character of the suffering the patient undergoes. As the pain comes on, he endeavors to support the affected arm with the other hand, pressing it towards the body, but he dares scarcely touch it, for so sensitive is it now that even the breath blown upon the surface excites additional

pain. At one time he endures the paroxysm in the standing position, or he seats himself upon a chair or the floor, and remains in a cramped condition, unmindful of all surroundings, until the extreme pain ceases. Frequently his sufferings are so severe that he is unable to contain himself, and he cries out so vehemently and piteously that he can be heard all over the building. Frequently I have seen him roll over the floor in agony, unable to control himself.

"This very intense suffering remains at its height but for a short time, from ten minutes to a half-hour, when signs of abatement are noticed, and in an hour or two the attack subsides. In attempting to describe the nature of the pain, beyond the fact that it is indescribably painful, we can learn but little concerning it. He has frequently, however, compared the sensation to a stream of ice-cold water running down the arm, together with the pain of burning and pricking.

"The paroxysms vary in duration and in frequency of occurrence. They also vary in intensity, according to the immediate cause which has occasioned them. When slight, an attack lasts perhaps ten minutes, or if severe, an hour. If quiet and undisturbed, and with the part protected, there may be but one or two paroxysms in the course of the day, but if the patient becomes worried or excited from any cause, or if the arm be exposed to violence, the attacks are much more frequent and correspondingly violent. Exposure to cold invariably causes pain, while rough handling or pressure of any kind is inevitably followed by severe paroxysms. Any movement of the arm, as necessarily occurs when his garments are changed, always gives rise to an attack of more or less severity. The lightest draught of wind is all-sufficient to produce a paroxysm. The pain is influenced very much by the condition of the weather. Of this fact the patient assures me positively, and the statement is confirmed by the nurses and his fellow patients, who have him continually under observation. He is always much worse the day preceding a storm or a great change in the weather. He is always worse and suffers more during a rainy or snowy season. He is decidedly better in summer than winter.

"The area of pain is much larger at the present time than it was a few years ago, but this is accounted for by the development of new tubercles in tissue previously healthy. The pain in a severe paroxysm shoots rapidly down the arm, even as far as the knuckles; it also spreads itself over the pectoral region, and up the side of the neck and head. The patient complains of a buzzing, singing sensation in the head, which he affirms is almost constant, and of late has been increasing in intensity. A neuralgic pain is also present in the head at times, which is liable to exacerbations during a paroxysm. His general health and condition are remarkably good considering his sufferings. His appetite is not wanting, and when free from a paroxysm he is able to rest and sleep quite well. The paroxysms, however, frequently awake him out of a comfortable sleep.

"Before entering the Philadelphia Hospital, with a view to obtain alleviation of pain, he submitted to having the arm and shoulder thoroughly blistered on several occasions, which proceeding, he thinks, gave him some relief for a period of six weeks; but his memory is rather vague concerning the past, and it is to be considered that this statement cannot be accepted without reserve. Since his admission to the hospital various means and remedies have been tried, but without the desired result. Hypodermic injections of morphia have frequently been administered during the paroxysms, with a view of checking their violence, but even with large doses the end has scarcely been attained. The relief afforded by this means is not material, and the after effects upon his head are so unpleasant that he prefers to endure the pain. Steam baths to the part have also been employed, but with little relief. Direct dry heat undoubtedly affords more ease than any other application that has been made, and he is never so comfortable and free from pain as when sitting close to a hot stove or fire with the arm exposed to the heat. When a paroxysm comes on he at once seeks the fire, and there remains until the pain has abated.

"With the hope of ascertaining the nature of the disease, the man consented to the excision of several of the tubercles. Three were selected in different

regions as being most characteristic of the affection. Two of these were situated in the central mass, about the shoulder, and the third was a well-marked, comparatively recent, isolated tumor, seated in the skin of the back about one inch to the right of the spinal column. The patient was etherized, and the growth removed, care being taken to include a considerable portion of the subcutaneous tissue with the incision. Unusually severe pain, continuing for several days, followed the operation, due in a great measure to the state of excitability which the whole proceeding occasioned, excitement of mind being always followed by an aggravation of the sufferings. Very little hemorrhage occurred. The wounds were very slow to cicatrize. The nodules directly after removal were of the size of large peas, irregularly rounded and defined, firm and quite hard to the touch, and of a dirty white color. Cutting one of them open vertically, the internal surface presented a dull white color, affording scarcely any blood or fluid upon pressure. The cut surface appeared homogeneous and solid throughout to the naked eye. The growths were not found to possess any filamentous attachments of any kind. The specimens were immediately placed in alcohol and a solution of bichromate of potassa, preparatory to microscopical examination. After carefully imbedding small vertically cut pieces in wax, thin sections were made with a razor, and examined with glycerin. Some of the specimens were stained with a chloride of gold solution of $\frac{1}{2}$ per cent. strength, while others were colored with a carmine solution. Many sections were submitted to close examination, with the following result: The epidermis was irregular and uneven in structure, and here and there completely broken down. The rete was imperfectly developed in certain of the sections, at one point showing normal growth and arrangement, while in other specimens there appeared an abnormal distribution of the younger cells. A singular concentric formation of the cells of the rete was here and there noticed, resembling the globular arrangement of epithelioma, but this condition was not universal, occurring only in certain sections. The papillary layer was irregularly developed. The papillæ were here and there greatly hypertrophied. The corium was abnormally infiltrated with new connective tissue growth which was firm in structure. The tissues beneath and the mass of the specimen consisted of a solid, resistant-looking connective tissue, irregularly developed and uneven in arrangement. The bulk of the tissue was old in appearance and well felted together, the new cell elements being entirely wanting. The connective tissue fibrils were closely packed, in places forming wave-like bands. There were also numerous free fibrils of elastic tissue scattered here and there through the specimens, particularly in the deeper portions of the tubercle, where in places they formed a delicate network. Here and there filaments appeared isolated, resembling very much fine nerve fibres. But among the many sections examined with the utmost care it was impossible to find either nerve trunks or branches."

This case, Dr. Duhring remarks, is without a parallel in medical literature.

ART. 75.—*Elephantiasis Arabum treated by Tincture of Iodine Internally and Externally.*

By Dr. OLAVIDE.

(*El Siglo Medico*, March 9.)

Dr. Olavide, at a meeting of the Academy of Medicine of Madrid (December 12th), presented two patients, the subjects of elephantiasis Arabum, whom he had treated by tincture of iodine used both internally and externally. The first patient was a man whose parents had been similarly affected. When he came under Dr. Olavide's care, the circumference of his leg was 70 centimetres; when he was presented to the Society it was scarcely 15. The treatment consisted in the external application of tincture of iodine by means of compresses, and the internal administration of the same remedy, commencing with doses of six drops and gradually increasing the quantity till it reached a drachm. In a fortnight after commencing this treatment the circumference of the leg had

diminished by one-half. The desquamation which took place was aided by the inunction of glycerole of starch. Finally compression from below upwards was employed. The patient, when the report was made, had been two months under treatment. The only symptoms remaining were vitiligo of the thigh and slight infarction of the dermis.

The second case was one in which the circumference of the leg was 68 centimetres. The same medicine was employed, also with a favorable result. The patient had a slight erysipelatous eruption on two occasions during the treatment, but this proved to be of little consequence.

ART. 76.—*On the Pathological Anatomy of Erysipelas.*¹

By M. RENAUT.

(*Gazette Hebdomadaire*, No. 42, 1873.)

The author describes two lesions accompanying erysipelas, the pathological anatomy of which has hitherto not been thoroughly made out; these are the vesications and the granulations of the skin. The vesications are formed by the elevations of the superficial layer of the epidermis and the subjacent layer of granular cells. In the vesication there is found between this elevated portion and the deep-seated layer a fibrinous exudation containing red and white blood corpuscles; the fibrinous material is abundant, and forms tracts disposed in a network of arches. The granulations which give to the skin the aspect of the surface of an orange, present characters resembling those of the smallpox pustule; these produce important changes in the serrated and prismatic cells of the Malpighian layer. The cells become vesicular and filled by a granular and fibrinous substance, the nuclei come in contact with the cell-walls, and the cells are reduced to the condition of septa circumscribing a kind of cavernous tissue.

ART. 77.—*On Scrofulous Erysipelas.*

By M. J. COURBON.

(*Thèse de Paris*, 1873; *Annales de Dermatologie et de la Syphiligraphie*, No. 5, 1873.)

The materials of this monograph were derived from the practice of M. Horand, at the Hospice de l'Antiquaille, for darts and scrofulous children. In the wards of this institution, where scrofulous affections are treated side by side with dermatoses of different kinds, one may be readily convinced that scrofula does really predispose to erysipelas and impresses on this eruptive affection certain distinguishing characters. Scrofulous erysipelas in fact differs from ordinary surgical erysipelas in its non-contagion, its mild course, and its absence of localization to the borders of wounds even when recent. Moreover, besides the spreading form which presents no special characters, M. Courbon describes an erysipelas à répétition, which consists in a series of erysipelatous eruptions, either fixed or spreading, succeeding one another after short intervals (from one to five days). This form is seldom met with except in scrofulous subjects. Nineteen very complete cases afford a good idea of these different varieties. Its most frequent seats are the face and pharynx—in one case it affected the meatus auditorius. Glandular swelling is always consecutive; the prognosis is favorable, even in cases where there is much delirium and where temporary albuminuria is noted. Finally, scrofulous erysipelas has no influence on the ulterior course of scrofula, and does not seem to modify sensibly any cutaneous lesions, around which the rash may have been observed.

¹ Communicated to the Société de Biologie.

ART. 78.—*On the Treatment of Erectile Tumors by Vaccination.*
(*Gazette Hebdomadaire.*)

The following discussion took place at the Société de Chirurgie, Paris, on October 1, 1873:—

M. Plot stated that since he had been charged with the service of vaccinations by the Academy, several infants had been brought to him weekly, whom the parents or their medical men had wished to be vaccinated for the treatment of erectile tumours. To pretend to cure erectile tumours, or at least certain of these growths, is to commit an error. Blood is drawn and the vaccine does not take, or when the vaccine does take it causes but a small cicatrix and nothing more. One may thus cure erectile spots, but in cases of erectile tumor vaccination is insufficient, and may even produce serious hemorrhage.

M. Tillaux stated that he had succeeded in curing veritable erectile tumor as large as a nut by vaccination. He passes a fine needle, armed with a thread dipped in vaccine, across the long axis of the tumor, and then a second thread in a direction perpendicular to the first.

M. Sée, having occasion to treat an erectile spot, had made a circle of vaccinal punctures on the healthy skin around the spot: a cure resulted.

M. Marjolin held that it was always right to attempt vaccination at first, whatever might be the seat, the extent, and the depth of the erectile tumor. A tumor of about two centimetres in diameter he treats by puncturing with 30 or 40 vaccine points, and he causes the skin to glide over the tumor before he makes his punctures. When circular vaccination of the healthy skin is performed, a kind of strangulation is produced around the disease. About ten years previously a little girl with a very large erectile tumor on the cheek was brought to M. Marjolin. He practised vaccination; erysipelas resulted, but finally the patient, who was three months old, recovered.

M. Després mentioned the case of a female infant who was born with an erectile tumor at the end of the little finger. At the end of six months, as the tumor was rapidly developing, M. Després made a simple vaccinal puncture on the most prominent part. The tumor then disappeared.

M. Chassaignac stated that he had published two cases of vaccination of erectile tumors. In one case the tumor was seated on the nose, in the other on the abdomen. The vaccine caused pustules, but the erectile tumors were not modified. The punctures were made near the periphery of each tumor. It was not the vaccine virus which effected a cure, but the consecutive inflammation. By attempting vaccination one lost time, and exposed the patient to erysipelas. M. Chassaignac agreed with M. Blot.

M. Blot thought that the opinion of M. Marjolin was too absolute. Superficial and small erectile spots might be cured by vaccination, but in the treatment of erectile tumors this treatment was not good, and it could not succeed in cases where the growth was large and thick. M. Tillaux no longer performed vaccination, but he applied setons; but the inflammation thus produced is not equal to that determined by caustics—a stylet at a red heat would give a better result. If but three or four out of fifteen punctures produced vaccinal pustules, it would be necessary to employ some other proceeding. Finally, M. Blot fears very much the occurrence of erysipelas in infants.

M. Marjolin stated that he applied vaccination in all cases, but he had not asserted that it always succeeded. The more or less considerable inflammation which accompanied vaccinal evolution might be turned to profit in the cure of erectile tumors; and if but half a success be obtained, there will then be a better chance of complete success from some other proceeding, or probably of a spontaneous cure.

M. Gueniot had often observed in young infants slight vascularization of the dermis near the eyelids and lips; most of these spots disappeared spontaneously in the course of the first six months. M. Marjolin did not class these among the erectile tumors.

M. Tarnier stated that he also had observed this vascular development, which

disappeared spontaneously, and had nothing in common with erectile tumors. He had seen in many infants who had presented no spot during the first few days of life, the subsequent development of an elevation resembling a red currant, which elevation increased very much in superficial extent, but was furnished with only small vessels. These spots generally disappeared spontaneously. Then, towards the middle of the spot, a whitish tissue of cicatricial appearance showed itself, and this gradually extended, and replaced the red structure. In these cases it was well to watch the infants during several months; if the spot increased in size instead of disappearing, one might then try vaccination.

ART. 79.—*On Prurigo.*

By TILBURY FOX, M.D.

(*Skin Diseases*, 2d edition. London, 1873.)

In writing on the above subject, Dr. Fox says: "This disease is essentially a chronic inflammation of the skin, which expresses itself in the first place by the development of peculiar papulæ, and subsequently general thickening of the skin, and, moreover, by intense pruritis at every stage of its course. It is a very uncommon disease in England, emphatically so in its severest form, which is seen pretty often in Vienna. I have been on the look-out for a case of the most marked form of disease, such as Hebra describes, for years past, and have only met with one case in England. In describing prurigo, it is most necessary to state what prurigo is not, for the reason that the word prurigo has been applied to several entirely distinct diseases in the loosest manner possible, and there is an abiding desire to rank under it diseases the most diverse en masse. I will therefore give in detail the characters of true prurigo, and then enter into particulars relative to the various diseases that have been and are likely to be confounded with it. The disease, I may say here, is not phtheiriasis (prurigo senilis of older authors.) Prurigo occurs in two forms, a slighter and a severer form, to which the terms mitis and ferox, or agria, may be respectively applied. Prurigo mitis is characterized by the development of flesh-colored papules, in an isolated and scattered form, of the size of a couple of pins' heads put together, or a little larger. These papular formations are attended by intense pruritis, which induces the patient to scratch and to excoriate the papules which then become covered at their apices by dried blood-scales. Sometimes the papules are very deeply excoriated. There are also papules to be felt rather than seen on the skin, and if the finger be passed over the affected part they feel shotty and hard. . . . The eruption, therefore, consists of certain papules, altered by scratching, and accompanied by intense itching, as primary and essential phenomena."

ART. 80.—*On a New Method of Determining the Presence of, and Recovery from, true Ringworm.*

By DYCK DUCKWORTH, M.D.

(*British Medical Journal*, August 31.)

The author called attention to the action of chloroform upon the infected hairs in cases of tinea tonsurans. It was shown that this agent caused the hairs to become white or slightly yellow in color, and thus to be distinctly mapped out and easily distinguishable from surrounding healthy hairs. The causes of the change were briefly discussed, and the particular phases of the disorder suitable for this application were pointed out. The effect of chloroform on patches of favus, tinea versicolor, melasma, and alopecia areata was likewise discussed. It was shown that no other reagent, so far as was known, possessed the peculiar properties of chloroform in affecting parasitically-diseased hairs.

ART. 81.—Cases of Ringworm treated by Oleate of Mercury.

By LEONARD CANE, M.B. & B.S. Lond.

(The Lancet, August 16.)

The advantages which oleate of mercury seems to possess over other remedies are, in Mr. Cane's opinion:—

1. It is a certain remedy, if carefully applied.
2. It produces no staining or injury of the skin. In cases where the disease appears on the face, it is of great importance to avoid any disfigurement or staining.
3. It is painless in its application. This is not the case with the ordinary strong parasitocides, most of which produce vesication, etc.
4. It readily penetrates into the sebaceous glands, hair-follicles, and even into the hairs themselves, the mercury being in a state of solution in an oily medium, and it is therefore much more likely to destroy the fungus than the spirituous or aqueous solutions of mercury, etc. This penetrating power of the oleate may be increased by adding a small quantity of ether (one part to eight) to it.

In very sensitive skins the irritation sometimes produced by it may be avoided by using a weaker solution (five per cent.), and by applying it with a camel-hair brush. In slight cases this method is all that is necessary, but where the fungus has invaded the hair it is advisable to rub in the oleate gently.

ART. 82.—On the Treatment of Impetigo.

By GEORGE P. RUGG, M.D.

(British Medical Journal, July 5.)

In four cases of "impetigo contagiosa," treated by Dr. Rugg, the most effectual application he found to be the new disinfectant, "chlorozone," which consists of fixed chlorine in an alkaline permanganate solution.

SECT. III.—FORENSIC MEDICINE.**ART. 83.—Experiments with Snake Poison; Potassa as an Antidote.**

By JOHN SHORTT, M.D.

(Medical Times and Gazette, August 23.)

In a letter from Madras in the *Medical Times and Gazette*, August 23d, 1873, Dr. Druitt relates some experiments he witnessed made by Dr. John Shortt with snake poisons. Dr. Druitt states, "We next witnessed a set of experiments to show the effects of liquor potassæ on the snake poison and on the animals poisoned with it. For this purpose a solution was made of four grains of dried cobra poison in half an ounce of distilled water. The dried poison had not lost an atom of its virulence (as we afterwards saw) although it was taken in August, 1870. The solution was slightly opalescent. On adding liquor potassæ to a still further diluted quantity, some striking chemical change evidently took place, for it speedily became of a bluish-black color—at first slight; afterwards intense, like newly prepared ink.

"Having satisfied us of the reaction between the potassa and the poison, experiments were made on animals. Two dogs injected with the solution of cobra poison into the cellular tissue of the parietes of the chest died in one hour and thirty-five minutes, and in two hours and forty-seven minutes respectively; whilst one dog that was injected first with cobra poison, and with diluted

liquor potassæ afterwards, survived for four hours and fifty-seven minutes; and a rabbit that was injected with the dark mixture of cobra poison and liquor potassæ was quite unaffected by the operation. . . . The reader will see at once that in the effects of the liquor potassæ Dr. Shortt seems to point, if not to an antidote, yet to something like one."

A case is related from the *Madras Monthly Journal of Medical Sciences*, in which the potash treatment proved successful. This is the third successful case under this treatment. Dr. Shortt states: "Long before I had the opportunity of testing the action of the liquor potassæ on the human subject, I ascertained the property it possessed of neutralizing snake poison, and the difficulty I experienced was to introduce some means to expedite its action in the living blood. After repeated trials and experiments, I found that brandy as a diffusible stimulant roused the nervous system, excited the circulation, and thus carried the potash into it as rapidly as possible, and enabled it to overtake and neutralize the poison in the blood. The secret of success, then, consists in bringing the patient's system rapidly under the influence of the brandy—or in other words, to make the patient *drunk* as speedily as possible, and maintain this effect for some time after. During the first forty-five hours of the patient's stay in hospital he took seventy-two ounces of brandy and four ounces and a half of the liquor potassæ by the mouth, fourteen ounces of brandy and three ounces and a half of the liquor potassæ by means of enemata through the rectum, and four ounces of the liquor potassæ was used in the bath he had. In all eighty-six ounces of brandy, and eleven ounces of the liquor potassæ were used in this case."

ART. 84.—*Treatment of Snake-bite by Artificial Respiration.*

By VINCENT RICHARDS.

(*Indian Medical Gazette*, May 1.)

Mr. Richards records a series of eight experiments instituted on dogs, to test the value of artificial respiration, as suggested by Dr. Fayer, in cases of snake-poisoning, and he thinks the results, though not absolutely successful, are very encouraging. In one case the heart's action was maintained for ten hours, and then ceased only on the discontinuance of the artificial respiration; and in another, the heart was kept beating for twenty-four hours and thirty-five minutes, sensibility being restored after it had been completely lost.

The following is his explanation of the physiological action of snake-poison. "When snake-poison is injected into the areolar tissue, as is usual in the case of a bite, absorption gradually takes place. When the poison reaches the lungs, it appears to excite the pneumogastric nerve, and through the medulla and spine the phrenic and intercostal nerves, principally leading at first to an accelerated action of the respiratory muscles, and afterwards, as a larger quantity of poison becomes circulated through the lungs, and the stimulus to the nerve-centres is augmented, to paralysis of them. Vomiting, which is a frequent, though not constant, symptom, probably arises from this irritation of the pneumogastric nerves. The medulla oblongata and spine are, indeed, primarily affected, and it is only as a secondary effect that the cerebral ganglia and cerebrum are involved. Presuming this to be the physiological action of the poison, it follows that a person fatally bitten dies from asphyxia produced by paralysis of the motor and respiratory nerves. The indication of cure, provided the effect of the poison on the nerve-centres is not permanent, is therefore artificial respiration. Moreover, if elimination of the absorbed poison can go on, as appears to be the case, we have good reason to hope for favorable results. When, however, the amount of poison injected is overwhelming, little, I think, can be hoped for from the treatment. That an animal may be affected even to convulsions, and yet ultimately recover without treatment, I have already shown (Fayer's *Thanatophidia of India*, p. 127), and I certainly think that when the quantity of poison injected into the areolar tissue would, under ordinary circumstances, be just sufficient to kill, artificial respiration, if properly maintained, might save life, as it does in the case of curara poisoning.

"I believe it was this latter fact which first led Dr. Fayrer to make a trial of artificial respiration in snake-poisoning, and the subsequent encouraging results which he obtained induced him to suggest its adoption in such cases."

ART. 85.—*Instructions for determining the Constituent Elements of Blood in Stains.*

(*Annales d'Hygiène Publique*, Juillet, 1873.)

The following conclusions are given in a report to the Société de Médecine Légale, by a commission composed of MM. Mialhe, Mayet, Lefort, and Cornil:—

1. The first duty of the expert is to preserve intact the red corpuscles of the blood, elements which are characteristic and may be readily destroyed. For this reason we have enumerated the destructive fluids, so that care may be taken not to bring any of them in contact with the blood-stain. For the same reason we have indicated the preservative fluids of which use may be made.

The destructive fluids are: acetic, gallic, hydrochloric, and sulphuric acids, the alkalies, potash, soda even in weak solutions, ether, chloroform, the biliary acids, etc., in short, nearly all reagents.

The preservative fluids are: alcohol, chromic acid, picric acid, an aqueous solution of bichromate of potash.

2. Should the expert first consulted not be sufficiently competent, and should he, for example, be inexperienced in the management of the microscope, he should endeavor to collect the blood-fluid or the desiccated stains, so that the specimens may be transferred to a specialist.

3. The blood, if it exist in a fluid condition, should then be placed between two glass slips well sealed, in order to prevent evaporation, or, and this is preferable, should be introduced into a tube similar to those used for holding vaccine lymph, which tube should then be closed by the heat of a lamp.

The fluid or clotted blood might also be placed in an experiment tube, a weak solution of chloride of sodium being added to prevent desiccation. The saline fluids employed in such instances are preferable to albuminous fluids because they are not subject to putrefaction.

4. In the specimens thus preserved, the expert determines in the first place, by means of the microscope, the presence of red globules in the fresh blood or blood-stain. He will succeed in this without difficulty, provided the stains be not too old. He will then measure the globules, and so determine whether or not the specimen is one of human blood.

5. If the stain be so old and altered that the red globules can no longer be recognized, the expert will seek for fibrin and white globules.

6. If microscopical examination permits the recognition of both red and white globules and of fibrin, it is useless to push the analysis further, as the results of the investigation are as complete as possible.

7. If the globules can no longer be recognized on account of their fragmentation, it will be necessary, even when white globules and fibrin are to be observed, to analyze the coloring matter of the blood.

8. Spectroscopy and the formation of crystals of hydrochlorate of hæmatin supply two equally sure means of affirming the presence of the coloring matter of blood. Crystals of hydrochlorate of hæmatin soon appear after a certain treatment of a very minute fragment of desiccated blood. We recommend, therefore, this proceeding, which permits one to dispense with spectral analysis.

Crystals of hydrochlorate of hæmatin are obtainable by the following method: a small fragment of dried blood is placed on a glass slide, it is then dissolved in water, to which is afterwards added a small fragment of marine salt. The fluid is then covered by a thin transparent cover, a small quantity of acetic acid having been placed between the glass slide and this cover. By means of a spirit lamp this fluid is heated to ebullition. More acetic acid is afterwards added, and the experiment is repeated until crystals are obtained. These crystals, which are minute when one has to deal with a very small quantity of blood, are rhomboidal and of a dirty-brown color. They are quite

characteristic, and the reaction by virtue of which they make their appearance is so sure that one may from their existence assert that of blood.

9. The chemical reaction recommended by Dr. Taylor is especially useful from the fact that when it does not take place, one may decide that the stain does not contain blood.

10. In order to obtain a satisfactory result from the series of researches necessary in difficult cases, the expert ought at first to divide his specimen into four parts, reserving the first for histological and the second for spectral analysis, the third for a search after crystals of hydrochlorate of hæmatin, and the fourth for the chemical proceeding recommended by Dr. Taylor.

ART. 86.—*On Herb Poisoning at the Cape of Good Hope.*

By GEORGE GREY, M.D.

(*British Medical Journal*, August 31.)

In his capacity as district surgeon of the district of Cradock, Cape of Good Hope, Dr. Grey had seen, during the last eight years, eleven cases of reported poisoning. In several of these cases, whole families had been affected; and generally, in each family, one or more deaths had occurred, from poison administered by the natives. In many of the cases, he found that strychnia, or the seeds of *nux vomica*, had been resorted to; in other instances, the tubers of certain iridaceous plants had, as far as could be ascertained, been used. Strychnia was commonly kept at the scattered farm-houses in the district, for the destruction of troublesome carnivora, and was, therefore, easy of access. Dr. Grey gave an account of some cases which had fallen under his notice, and described the effects of various poisonous plants indigenous to South Africa, and which may, apparently, be used for criminal purposes.

ART. 87.—*On Atropia Poisoning and Delirium Tremens.*

By ANGUS MACDONALD, M.D.

(*British Medical Journal*, July 26.)

At a meeting of the Medical Chirurgical Society of Edinburgh, June 18th, Dr. Angus Macdonald read an account of a case of atropia poisoning coincident with delirium tremens. The patient, a young gentleman, was said to have taken a fit. He was found unconscious, with fully dilated pupils, which did not respond at all to light. There was no paralysis. The delirium seemed alcoholic in character. The tongue was not bitten, and though the patient was not restless, there had been no real fit. Cold was applied to the head, and croton oil given. Dr. Sanders saw the patient, recognized the alcoholic element, and suggested the possibility of belladonna poisoning, but feared meningeal mischief. It was found that the patient had been ordered one ounce of the liquor atropiæ sulphatis, to be used for a conjunctivitis, three months before. Consciousness gradually returned, but with it symptoms of delirium tremens, from which in a few days he made a good recovery. The case is worthy of notice from the rarity of such a coincidence, and also as giving information as to the minimum fatal dose of atropia, which has been apparently much exaggerated. Taylor records a case in which two grains proved fatal, but some authorities speak of one-fortieth or one-twentieth of a grain as being a dangerous dose.

Dr. T. R. Fraser said that, while very small doses, such as one-fiftieth to one-twentieth of a grain, really did produce alarming symptoms, it was known that much larger quantities were not lethal; and from his experiments on animals, he believed that a comparatively large dose could be borne.

Dr. Argyll Robertson alluded to the symptoms often seen after the use of eye-water too frequently in young children. He did not know of any fatal case. He believed they acted, not by being absorbed by the conjunctiva, but by passing into the mouth either through puncta, or by the angle of the mouth itself.

ART. 88.—*Case of Strychnine Poisoning successfully treated by Atropine.*

By SAMUEL BUCKLEY, F.R.C.S. Eng., Visiting Medical Officer to the Prestwich Workhouse, etc.

(*Edinburgh Medical Journal*, September.)

Mr. Buckley relates the history of a case of a young woman who purchased a packet of "Hunter's infallible vermin and insect destroyer," for the purpose of suicide. About four o'clock in the afternoon she took a pinch from the packet between her finger and thumb, placed it on her tongue, shut her mouth, and immediately got into an omnibus coming to Manchester. A sensation of dizziness and faintness soon came over her, quickly succeeded by a feeling of choking and dyspnœa, subsequently to which she lost all recollection of what occurred.

The omnibus arrived in Manchester at 4.25 P. M., from which she was removed by the police to the infirmary, the officer stating that he found her lying on the seat "as stiff as a board." When brought to the accident-room at 4.30 she was in a state of perfect opisthotonos, the spasms were severe and painful, and the intervals of exceedingly short duration. The stomach-pump was at once used by Mr. Boutflower, the house-surgeon, the stomach being emptied and well washed with water, after which she was put to bed between warm blankets, and a hot bottle was applied to the feet. Chloroform was administered to relieve the pain of the spasms, and at the suggestion of Dr. Eason Wilkinson atropine was injected subcutaneously, as an antidote to the effects produced by the poison. The liquor atropiæ (B. P.) was used, of which twenty minims ($\frac{1}{3}$ th of a grain) were injected three times at intervals of ten minutes. Under this treatment a semi-comatose condition supervened, and after each injection the spasms were observed to become milder in character. At this period the heart's action was impetuous and irregular, the pulse extending over a large area; no bruit was heard; the pulse was 130, and fluttering in character. Respiration was hurried and slightly stertorous. The pupils were widely dilated; the eyes had a peculiar fixed and bright appearance; the face was flushed, and during the earlier paroxysms the risus sardonius was well marked, but had now disappeared, the features being natural but immovably fixed. The patient appearing to be well under the influence of the atropine, it was given more cautiously and at longer intervals in doses of $\frac{1}{2}$ gr. The spasms, however, increased in severity whenever the injections were long omitted. Chloroform was also discontinued during the intervals, which now lasted about twenty minutes, and given only during the attacks, which had become much lessened in intensity, the opisthotonos having entirely disappeared. The last severe spasm was at 8.30, after which there appeared to be more co-ordination in the muscular movements. Slight spasms, however, came on if the patient was touched or moved in the least, and a rather severe one was induced about 9.30 by the nurse changing the hot-water bottle. At 12.30 A. M. she began to show signs of returning consciousness. The pulse was 90, full and regular; respirations easy, and 22 per minute. She was with difficulty roused, and answered questions loudly spoken in a vague and muttering manner. After a time she swallowed a cupful of hot strong coffee, deglutition appearing painful. She fell asleep at 1.30, and shortly after was left to the care of the nurse. At 9 A. M. she suffered no inconvenience, beyond a feeling of uneasiness about the throat. The day following she complained of stiffness and pains in the joints. The urine was loaded with lithates for three days, and then became clear. She left the hospital, completely recovered from the effects of the poison, on the ninth day after admission, being detained a few days in consequence of a burn on the foot, arising from contact with the hot bottle, which, by the way, produced no irritation at the time to attract observation.

ART. 89.—Case of Poisoning by Homœopathic “Concentrated Solution of Camphor.”¹

By GEORGE JOHNSON, M.D., F.R.C.P.

(*The Lancet*, November 22.)

Dr. George Johnson related some cases of this kind:—

CASE 1. Miss F——, aged twenty, having a cold and sore throat, took in water twenty-five drops of “Epps’s concentrated solution of camphor.” She went to bed, and in a short time was found foaming at the mouth, black in the face, and violently convulsed. Mr. Drake, of Brixton, was sent for in great haste. For several hours she was unconscious. She vomited blood-tinged fluid smelling strongly of camphor, and had severe gastric pain. For several days she was partially paralyzed, and six months afterwards she was still suffering from symptoms of nervous derangement. The preparation which caused these serious results is a saturated solution of camphor in alcohol, the proportion being an ounce of camphor to an ounce and a quarter of spirit. It is, therefore, stronger than the spirit of camphor of the British Pharmacopœia in the proportion of 7.2 to 1.

CASE 2. The Rev. W. R—— was advised to take for a cold three drops of the same preparation every five minutes for an hour. After taking the eighth dose he was seized with intense headache, which confined him to bed for forty-eight hours, and he was afterwards so weak and ill that he was unable to enter his pulpit for two months.

CASE 3. Another case was communicated to Dr. Johnson by Mr. Delamark Freeman. A young lady, aged nineteen, took for diarrhœa a teaspoonful of the same preparation, which rendered her comatose for several days, and caused a variety of nervous symptoms, which did not pass away for several days. Dr. Johnson remarked upon the notorious fact that many of the disciples of Hahnemann have passed from the irrational and ludicrous extreme of infinitesimal dilutions to the dangerous extreme of the greatest possible concentration of active and poisonous drugs. There is an obvious risk that this concentrated solution of camphor may be mistaken for the much weaker solution of the British Pharmacopœia—a mistake which, in spite of the printed directions on the bottle, was probably made by both the young ladies who suffered so seriously for their error.

ART. 90.—Poisoning by the Fumes of Charcoal.²

By J. HAWTREY BENSON, M.D.

(*British Medical Journal*, July 5.)

Dr. J. HawtreY Benson read a narrative of two cases of poisoning by carbonic oxide, occurring in University students, aged eighteen. The lads had incautiously left in their sleeping apartment, the chimney of which was stopped up, a charcoal brazier on a cold night last March. Next morning they were both found insensible. On being summoned, Dr. Benson found one lad already aroused, but still heavy and confused, with a small and feeble pulse (104 in the minute), respirations 20, temperature 99°. Slight vomiting followed, which seemed to relieve him, and after remaining in bed all day, he was nearly well, though weak next morning. The second lad was deeply comatose, with face livid and bloated, respiration labored and stertorous, eyes congested, pupils alternately dilated and contracted, teeth clenched, slight frothing at the mouth, limbs somewhat rigid, pulse 140, but regular and fairly strong; temperature

¹ Read at a Meeting of the Clinical Society of London, November 14.

² Read at a Meeting of the Medical Society of the College of Physicians of Ireland, April 9.

103°, respiration 36, and evidently sluggish peripheral circulation, visible jugular pulsation, and universal dry *râles* over the posterior aspect of the chest. Free ventilation of the apartment was at once secured, and a current from Gaiffe's induction-apparatus was passed between the phrenic nerve and the diaphragm during inspiration. At the suggestion of his colleague Dr. Purser, Dr. Benson used cold affusion (temperature of water 60°). At 1 P. M., the pulse was 132, respiration 36, temperature 102°·6; the patient sweating profusely. At 3.30 P. M., Dr. Hudson visited in consultation, and, looking to the evident distension of the right heart, recommended cupping under both clavicles. Three or four ounces of blood were removed with difficulty. At 9.30 P. M., pulse 120, respiration 24, temperature 102°. The patient was still deeply comatose. A pint of urine was removed by the catheter. Dr. Purser now examined the fundus of the eye with the ophthalmoscope, and found extreme venous congestion. In about thirty hours from the time of the accident, full consciousness returned; but there was profound muscular prostration, with pains in the calves of the legs and feet; and on the third day sordes covered the lips and teeth. Pyrexia persisted for six days, after which the temperature became subnormal for a day (97°). On the ninth day, the patient was able to sit up for the first time. Dr. Benson alluded to the persistence of the symptoms caused by the inhalation of carbonic oxide, while carbonic acid produced but comparatively transitory effects. Modern investigation, represented by Claude Bernard, had shown that this peculiarity in carbonic-oxide poisoning depended on the formation in the blood of a new and definite compound, called *carbonic oxide hæmoglobin*, a substance possessing a separate spectrum, distinct from that of either the oxy- or the reduced hæmoglobin, and also differing from these in its chemical properties.

Dr. Purser said that, in Dr. Benson's second case, the ophthalmoscope showed extreme congestion of the venous, and emptiness of the arterial system of the fundus of the eye.

Dr. H. Kennedy mentioned two cases of poisoning by carbonic oxide which had come under his notice, and in which the symptoms closely resembled those detailed by Dr. Benson.

Dr. Quinlan alluded to the method adopted for resuscitating the dog, experimented on in the Grotto del Cane, near Naples, by dipping the animal two or three times in a neighboring pool.

The Chairman (Dr. Stokes), said that, in this accident, a fever was clearly produced, as a direct result of blood-poisoning.

Dr. Benson said that one of his patients suffered from a copious crop of boils, a few weeks after his recovery—a fact of much interest when taken in connection with the question of blood-poisoning.

SECT. IV.—THERAPEUTICS.

ART. 91.—*Artificial Fibrin as a Dietetic Substance.*

By JOHN GOODMAN, M.D.

(*British Medical Journal*, May 17.)

Dr. John Goodman calls attention to his discovery of this new dietetic substance. So far as he has employed it, he says, "it promises fair to be invaluable in medical practice, especially in cases of feeble alimentation and deficient nutrition, and second to none in those cases where rejection of food forms a prominent feature, or where the appetite and digestive powers are reduced to a minimum. As fibrinous material it is of course highly nutritious, and eminently adapted to all cases where there is a deficiency of fibrin in the blood. It is, perhaps, unparalleled in its qualities of lightness and digestibility, and is, moreover, a great delicacy. In many urgent cases of rejection of food, etc., it not only remains where an egg otherwise cooked would not be tolerated, but

its presence in the stomach has been found to create a feeling of want rather than of superfluity, and to promote rather than decrease the appetite for food.

"The production of this substance is within the reach of every sick room, and is effected with great facility. It is formed by exposing albuminous material to the operation or influence of cold water for a given period, and on account of its great plenteousness we employ the ordinary hen's egg for its production. When the shell is broken and removed, and its contents are immersed in cold water for twelve hours or so, they are found to undergo a chemico-molecular change, and to become solid and insoluble. This change is indicated by the assumption by the transparent white of the egg of an opaque and snowy white appearance, which far surpasses that of an ordinary boiled egg. The product, and the fluid in which it is immersed, must now be submitted to the action of heat to the boiling point, when the fibrin will be ready for use."

ART. 92.—*Carbolic Acid and Zymotic Disease.*

By JOHN DOUGALL, M.D., Medical Officer of Health for the Burgh of Kinning Park, Glasgow.

(*The Lancet*, August 30.)

"A breakfast-saucerful of pure crystallized carbolic acid liquefied by a minimum quantity of water was placed on a table close to a small iron stand six inches high. Both were covered with a glass bell-jar of one cubic foot capacity, its roof being one foot above the surface of the table and six inches above the top of the stand. Twelve hours after, the interior of the jar being then filled with concentrated carbolic vapor, the jar was raised vertically, and a slip of glass on which was placed a minim of vaccine lymph (reaction alkaline) laid on the stand; the jar was at once replaced, and in the heart of this cubic foot of strong carbolic vapor the minim of lymph was buried for thirty-six hours. At the end of this time the lymph, now shrunk into an opalescent scab, was moistened with a little water and glycerine (mixture neutral) and sealed in capillary tubes. A few days after a child was vaccinated with the contents of the tubes, and a perfect vesicle resulted, from which I filled twelve tubes. The lymph from two of these tubes was mixed on a slip of glass with one minim of a 1-in-50 aqueous solution (1-50 of a grain) of carbolic acid (mixture neutral). In twelve hours the mixture, now dried into a film, was laid by. After ten days it was moistened with water, and a child successfully vaccinated with it. Ten tubes were filled from the vesicle, the lymph from which and from the previous vesicle was used for subsequent vaccinations, all of which were successful.

"The effects of other volatile media on lymph were also tried in the same way, except that the lymph was exposed to their action only twenty-four hours. The results obtained are strikingly conclusive, as seen in the following—

Summary of Results of Vaccination.

SUCCESSFUL.	Reaction of mixture of Lymph and Glycerine.
Carbolic acid (vapor)	Neutral
Carbolic acid and lymph	"
Chloroform	Alkaline
Camphor	"
Sulphuric ether	"
Iodine	Neutral
UNSUCCESSFUL.	
Chloride of lime	Acid
Sulphurous acid	"
Nitrous acid	"
Glacial acetic acid	"
Hydrochloric acid	"

"The above table shows that the mixture of lymph and glycerine of the successful vaccinations was either neutral or alkaline, while that of the unsuccessful was, without exception, acid. Hence it follows that strong acids, or a body causing acidity by chemical affinity—*e.g.*, chlorine—are destructive of the active properties of vaccine lymph, and therefore *a priori* of variolous matter and other zymotic poisons.

"But to return to carbolic acid. The lymph was exposed to its vapor for thirty-six hours, while the other portions of lymph were exposed to the other vapors only twenty-four hours. Furthermore, carbolic acid was, as stated, actually mechanically incorporated with lymph, and, moreover, lest the genuineness of the vesicles produced by the two kinds of carbolized lymph should be questioned, their lymphs were repeatedly vaccinated 'in and in' with unvarying success. These simple facts show that the present extensive use of carbolic acid as an anti-zymotic is a serious delusion. If a minim of vaccine matter is unaffected after being buried thirty-six hours in the heart of a cubic foot of concentrated carbolic vapor, or after being mixed with the acid in the proportion of 1 in 50 for ten days, it is surely plain that the destructive action of carbolic acid on variolous matter and other zymotic poisons must be *nil*, seeing that the conditions of the experiments are far more severe than are possible in practice. But premising that carbolic acid is relatively a fair antiseptic, it by no means follows that it is *pro tanto* anti-zymotic. We have no valid grounds to assume, as is constantly done, that because carbolic acid can prevent or arrest putrefaction, it can therefore annihilate zymotic poison. Antiseption means preservation, not destruction. As proven by the action of carbolic acid on vaccine lymph, it conserves both the physiological and physical properties of the antisepted body; at least it does not impair them. Thus the contagia which it is thought are destroyed are preserved. To get rid of zymotic poison, destructives, not preservatives, must be used. These, as pointed out, are chiefly the mineral acids."

ART. 93.—*Note on the Therapeutical Uses of Iodoform.*

By H. S. PURDON, M.D., L.R.C.P., Physician to the Belfast General Hospital and to the Hospital for Diseases of the Skin.

(*Dublin Journal of Medical Science*, June.)

During the last three years iodoform has been brought prominently under professional notice in France and United States. It possesses not only tonic and stimulant, but also alterative properties; the dose is from one to three grains, given in form of pill. Externally it may be applied as an ointment in the proportion of one drachm of iodoform to the ounce of lard, a few drops of rectified spirit being first added to dissolve the iodoform. This ointment will be found useful to relieve the pain of cancerous sores; fissures, especially of the rectum; ulcers; to allay excessive pruritus of the skin, as in prurigo and scabies. For a vaginal suppository iodoform has been recommended by Dr. E. Cutter, of Boston, U. S., in painful uterine diseases. When introduced into the rectum as a suppository it exercises upon the sphincters a local anæsthetic effect, so that defecation has been performed unconsciously. In hæmorrhoids and tenesmus it is useful. Moutre's formula is: Iodoform powdered gr. xx, cocoa butter ℥j, melt and mix into six suppositories. As a disinfectant its power has been asserted by Righini. Certainly the odor is powerful and permanent, and may be compared to that of saffron. For ulcers the iodoform ointment is serviceable, especially when they are painful and indolent. Moreover, Dr. Izard has experimented with iodoform in the treatment of venereal ulcers; such sores it heals and cicatrizes rapidly. According to the same author, if iodoform be sprinkled upon a soft chancre it heals quickly and without pain. Moreover, it arrests the progress of phagedæna. M. Demarquay thinks highly of this remedy, whilst Dr. Stiles recommends it as an addition to the ordinary plasters and ointments for syphilitic periostitis. Dr. Gamberini (*Lancet*, April 12th, 1873), at the hospital of Saint Opolu, Bologna, treats all cases of soft

chancres with iodoform, two drachms and a half to an ounce of glycerine. This remedy he has found highly successful. For burns, scalds, and painful boils the application of an ointment containing thirty to forty grains to the ounce is recommended as a good anæsthetic. Internally, Dr. Purdon has found a grain of iodoform with two grains of reduced iron, given in form of pill twice or thrice daily, a most excellent remedy for neuralgic and chronic rheumatic affections. In scrofulous complaints, such as glandular enlargements, it may be prescribed both locally and constitutionally, and its benefit will not be considered surprising when we remember that iodoform contains ninety per cent. of iodine.

The following are some of the diseases in which Dr. Purdon has given iodoform a trial, and that an extensive one. At the Belfast General Hospital he has ordered it in several cases of phthisis in the following way: Iodoform sixteen grains; essence of aniseed one drachm; cod-liver oil eight ounces, mix; dose, a tablespoonful twice daily one hour after food. Also in neuralgia, given with iron, in chronic rheumatism, chlorosis, anemia, and as a suppository in the vagina in cystitis in the female. At the Belfast Hospital for Diseases of the Skin, iodoform has been prescribed locally in prurigo, in pruritis ani, in cancerous ulceration, and painful ulcers of limbs. In phthisis the remedy in second stage of the disease checks the night sweats, and relieves the hacking cough. Moreover, the cod-liver oil agrees better with the stomach when thus combined. In neuralgia it is often curative when other remedies have failed. It acts better when combined with reduced iron.

ART. 94.—*On Iodoform as a Topical Application to Venereal Ulcers.*

By JOHN ASHHURST, Jun., M.D.

(*American Journal of the Medical Sciences*, July.)

At a meeting of the College of Physicians of Philadelphia, March 19th, Dr. John Ashhurst, jun., mentioned that he had been using iodoform lately in a number of cases of chancroidal and of syphilitic disease with very gratifying results. The preparations employed, besides the drug in powder, were those recommended by Dr. Izard and by Dr. Damon, of Boston, viz., an ointment (R. Iodoformi, ℥ss; adipis, ʒj), and a solution in glycerine and alcohol (R. Iodoformi, ℥ss; glycerinæ, fʒvj; alcohol, fʒij). The latter was preferred so long as the discharge from a venereal sore was profuse, the powdered drug being applied to the ulcers in their later stages, while the ointment was reserved for cases of unopened chancroidal bubo, and of un ulcerated gummatous tumor. In the treatment of chancroids, Dr. Ashhurst had continued to make, at the beginning, one thorough canterization with nitric acid, and in the treatment of syphilitic ulcers had, of course, not neglected to direct suitable constitutional treatment at the same time that he had employed iodoform as a topical remedy. From the results which he had obtained he was disposed to think that iodoform would prove a valuable addition to the surgeon's repertory in the treatment of all varieties of venereal ulcers. He did not think that iodoform, at least in its external applications, possessed any anti-syphilitic virtues; he regarded its action as entirely of a local character.

Dr. W. S. W. Ruschenberger stated that he had employed iodoform for the past three years, both internally and externally, with the most satisfactory results. He had used it in phagedenic ulcerations, and also in carbuncle. When applied in substance he thought it should be in a state of very fine powder, otherwise it would, in some cases, provoke irritation. The ointment (iodoformi, ℥j; ol. theobromæ, ʒss) was a favorite preparation with him.

Dr. Edward Hartshorne inquired whether Dr. Ashhurst had observed, in the cases treated by him, any symptoms of iodism. Iodoform contains so much iodine (about nine-tenths), that it might be apt, when employed as freely as stated, to produce the constitutional effects which are sometimes noted in the use of iodine and of iodide of potassium.

Dr. Ashhurst said, in reply, that he had not observed constitutional effects in the cases under his care; he added that he was somewhat sceptical on the

subject of the absorption of medicines from suppurating surfaces, and mentioned that he was in the habit of dressing amputation wounds with pure laudanum, using it in large quantities, and for a number of days consecutively, without the occurrence of any symptoms indicating constitutional implication; he doubted whether, under such circumstances, any appreciable amount of the drug was absorbed.

Dr. Ruschenberger stated that he had administered iodoform internally in one-grain doses, and had not observed symptoms of iodism in any instance.

Dr. J. S. Parry had employed iodoform internally in cases of inherited syphilis, in children from three to twelve years of age, continuing its administration from one month to six weeks—in one case he administered the remedy for six months. In these cases he failed to observe any good results follow its use. In one case of nervous palpitation of the heart, the patient was materially benefited by one-grain doses three times daily; symptoms of iodism did not occur in any case.

ART. 95.—*On Carbonate of Ammonia and Uræmia.*

By PROFESSOR ROSENSTEIN.

(*Virchow's Archiv*, lvi. 3; *Schmidt's Jahrbücher*, No. 5, 1873.)

Carbonate of ammonia, when introduced into blood, is capable of producing a complex set of symptoms which perfectly resemble those of epilepsy, and likewise the group of symptoms which is observed in a class of cases of uræmia. The convulsions excited by carbonate of ammonia are undoubtedly of cerebral nature, and cannot be produced after separation of the brain from the spinal cord. It is probable that they are the effect of a direct action of the poison on the nerve substance of the cerebral motor centre; at least it is certain that they are not reflex actions set up through the cervical sympathetic or the vagi nerves. If in a frog—in which creature one-fortieth of a gramme of carbonate of ammonia suffices not only to produce, as in rabbits and dogs, the characteristic phenomena, but also to act fatally—the spinal cord be divided close behind the ears, previously to an injection, no convulsions will take place. On division of the middle portion of the dorsal cord, one will observe most vehement tetanus of the anterior limbs, whilst the posterior limbs remain at rest. If a ligature be placed around the heart, the convulsions will almost immediately come on in full force. The death of the creature results from arrest of the respiration, which, previously, was very irregular; the heart continues to beat for some time after the failure of respiration. In rabbits from four-fifths of a gramme to one gramme and a fifth, according to the weight of the animal, and in dogs from four to five grammes of carbonate of ammonia, injected into the blood, are necessary quantities for producing epileptiform phenomena; these doses, however, are not sufficient to cause death. With dogs, in addition to excessive salivation, vomiting often occurs immediately after the injection. Previous narcosis, through morphia, chloroform, hydrate of chloral, exercises no influence on the character of the convulsions; the smooth muscular fibres remain unaffected by spasm. In pregnant animals, neither does abortion take place, nor is the life of the fœtus put in danger. All the symptoms of poisoning by carbonate of ammonia are of a transient nature so long as the kidneys, which form the chief eliminatory organs for the poison, remain intact. Elimination of the poison takes place but to a slight extent by the pulmonary mucous membrane.

In the afternoon of February 21st a medium-sized rabbit was deprived of both its kidneys. On February 23d, at ten in the morning, half a gramme of carbonate of ammonia was injected: this proceeding was followed by severe tetanic convulsions and loss of consciousness, and the respiration increased gradually in frequency. At twenty minutes there was complete unconsciousness, but no general convulsions were observed; only in the right anterior extremity was there any twitching. At three in the afternoon the animal died. Kuhne's test was applied to the blood, but no carbonate of ammonia could be

found. No traces of carbonate of ammonia could be found in the breath before death.

By this experiment it was proved that symptoms of poisoning may be presented without any excretion of carbonate of ammonia, either from the lungs or from the kidneys. Whether in this case vicarious elimination took place from the skin, or the carbonate was converted in the blood into nitrate of ammonia, remains undecided. In some few cases paraplegia of the lower extremities, which is of central origin, is associated with the symptoms of ammoniacal poisoning.

The main distinction between the working of carbonate of ammonia and that of the agent which causes uræmia consists in this: the former gives rise to one and the same collection of symptoms, those, namely, of epilepsy; whilst the latter produces epilepsy and coma, convulsions and delirium. But even in those cases in which the uræmic symptoms resemble those of poisoning by carbonate of ammonia, and at the same time present the epileptic form, and should even carbonate of ammonia be found in the blood, an association of the two cannot be concluded, since similar symptoms, as has been learned from careful investigation, have been observed in man without ammonia having been found in the blood; and since, with researches on animals, no correspondence exists between the intensity of the uræmic phenomena and the quantity of ammonia found in the blood. With the eclampsia of pregnant women, the fact should be especially borne in mind that the narcotics, the use of which has undoubtedly good results in man, in no wise hinder the production of cerebral convulsions in ammoniacal poisoning.

In conclusion, the author points out that the nervous symptoms which are so often manifested towards the end of chronic affections of the bladder and prostate, and which have been included under the name of ammoniæmia, have nothing in common with the results of poisoning by carbonate of ammonia. This name is the result of so erroneously theoretical ideas that it had better be given up. The epileptiform attacks, which constitute the one constant result of ammoniacal poisoning, are entirely absent in cases of this so-called ammoniæmia.

ART. 96.—*On Chloral Hydrate.*

By CHARLES KIDD, M.D., M.R.C.S.

(*The Student's Journal and Hospital Gazette*, August 30.)

In a paper on the above subject Dr. Kidd points out that much depends on the mode of prescribing this drug. Chloral in enema acts well where its ordinary administration by the mouth often causes only gastric disturbance, and not sleep: the latter disturbance, however, is now removed very often by the addition of bicarbonate of soda to the chloral: the hypnotic action then is at once developed. Chloral is a very risky medicine for suckling women, as it narcotizes the infant very deeply; but its usefulness in general midwifery, as the author stated some years ago, is now generally admitted. Chloral is not advisable in acute pneumonia, though it is in fever or mania.

With reference to the injudicious use or alleged over-dosing of chloral hydrate, it is a rather common subject of admission that such doses as 30 grains at a time have been given two or three times a day. No doubt its value in the sleeplessness of old people, in delirium, or acute mania, or clonus, or puerperal convulsions is very great, if not abused, as it is to be feared in the first-named class of affections it may be. Like ether, perhaps, chloral is free from the violent excitement stage of anæsthesia witnessed under chloroform. As an antidote to overdose of chloral, musk has been tried with good results, as also strychnine, and injection of ammonia to quicken the respiration. Patients while taking chloral require anxious watching, as at any moment dangerous symptoms may set in; its dose, too, sometimes, as already said, is subject to uncertainty in action, even according as the syrup is prescribed or the crystals, as the latter soon spoil in the dispensing bottles. The earlier dangerous symptoms are great coldness of the skin, with signs of cerebral congestion; intense

muscular relaxation, etc.; the same nearly as in death from ether inhalation. Advantage has been taken of this muscular relaxation, however, in tetanus cases.

After the ordinary prescription of draught of orange-water and syrup with a few drops of chloroform, the best mode or manner of prescribing chloral hydrate is in double doses in this form of enema; a fact of great importance in such diseases as puerperal convulsions, mania, tetanus, etc., the vehicle, or mixture, altering very much, too, as it is alkaline or acidulous. Many of the earlier errors arose from not realizing these conditions, or the well-known alteration in the crystals when too long kept as crystals.

In tetanus chloral hydrate has now saved 17 out of 20 consecutive cases of that disease; 40 grains is the dose at night, and 30 at mid-day, avoiding *small* doses. The patient in lock-jaw is made to swallow also milk and eggs abundantly, and if the pulse grow weak, brandy and beef-tea; if the patient can be got over the tenth day with chloral, even in enema, a very favorable prognosis may be formed. This line of treatment agrees with similar good results obtained by administration of chloroform by inhalation where it has been carried out with skill, but the agitation of the patient under chloroform is avoided by the calm continuous sleep under the chloral hydrate—the great and most important element, Dr. Kidd thinks, in tetanus cases.

ART. 97.—*On the Constitution and Action of Croton-Chloral-Hydrate.*¹

By OSCAR LIEBREICH, M.D., Berlin.

(*British Medical Journal*, August 31.)

Dr. Liebreich gave an account of the action of this substance, comparing it with chloral hydrate, and pointing out some of the conditions indicating its use. Its action differed from that of chloral hydrate in that, while it produced sleep, it did not affect muscular tone or interfere with circulation or respiration. Its use was indicated where chloral hydrate was inapplicable on account of heart disease; and in cases of neuralgia affecting the trigeminal nerve. Where large doses of chloral were necessary to procure sleep, Dr. Liebreich recommended the addition of some croton-chloral.

ART. 98.—*On the Employment of Gelatine Suppositories in the Treatment of Fecal Accumulations in the Rectum.*

By Dr. NAGEL.

(*Allgemeine Wiener Medizinische Zeitung*, 1873; *Gazette Hebdomadaire*, No. 22, 1873.)

Obstinate constipation produces in certain cases an accumulation within the rectum or sigmoid flexure of extremely hard matter, the so-called scybala. This is a condition which it is usually difficult to treat, and which frequently necessitates the unpleasant employment of the anal curette; the employment of injections and of very energetic purgatives is often accompanied by very acute pain, and sometimes results in only an incomplete evacuation.

M. Nagel asserts that he has discovered a very simple plan of treatment, and one which may be tried in all cases without any distrust. He uses suppositories of gelatine, which, according to the results of his observation, produce excellent effects in cases where hard masses have accumulated in the rectum or sigmoid flexure. To this condition Dr. Nagel gives the name of coprostasis.

The suppositories are made with brown gelatine; these are kept in water for twelve hours, and then, when they are swollen and soft, are introduced into the rectum. In the course of twenty-four hours, an evacuation of pultaceous

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

matter will be obtained. The author attributes the mode of action of these suppositories to the hygrometric properties of the gelatine. This explanation seems to be a rational one, but count should also be taken of the action of the suppository on the mucous membrane of the rectum, and on the secretion of the intestinal juices.

ART. 99.—*Hydrocyanic Acid as a Remedial Agent in Delirium Tremens.*

By HENRY B. DOW, M.D.

(*British Medical Journal*, May 31, 1873.)

Dr. Dow expresses his belief that hydrocyanic acid fulfils all the indications in delirium tremens better than opium, digitalis, or belladonna. It allays the irritation of the stomach, and checks the nausea and vomiting; it quiets the nervous excitement, and by so doing, tends to produce sleep; and it also controls the action of the heart. It has the advantage of producing its effect quickly, and of not being cumulative, and is taken readily by most people. He has used it with the most satisfactory results, and he now mentions his usual method of administration. He gives it in combination with bicarbonate of potash, chloric ether, and camphor mixture, in doses of one, two, or three minims of the Pharmacopœia solution every two, three, or four hours, according to the severity of the case; and also finds that benefit may sometimes be derived from the addition either of three or four grains of carbonate of ammonia, or a few minims of the compound spirit of ammonia. The patient is to be nourished by the administration of beef-tea, milk, etc., and wine or other alcoholic stimulants to be given, according to the discretion of the medical adviser; the less, however, the better. As soon as the worst symptoms have been relieved by the above treatment, the appetite is soon restored by the use of dilute nitric acid and decoction of cinchona.

ART. 100.—*Liquor Ferri Subsulphatis in Diphtheria and other Affections of the Mucous Membrane.*

By V. J. FOURGEAUD, M.D.

(*The Western Lancet*, May.)

For several years past (since 1868) Dr. Fourgeaud has relied principally on the liquor ferri subsulphatis, both for local application and internal administration, considering it the most valuable remedy we possess for that class of diseases characterized by exudations, vegetations, false membranes and abnormal formations and growths of a humid and superficial nature on the mucous membranes.

He applies the undiluted solution to the affected parts by means of a camel-hair brush, or better, of a piece of sponge, smaller than is generally used for throat probangs, attached to a suitable holder. The sponge should be well moistened with the solution, but should be pressed a little before using, to free it from an excess of fluid. In applying the medicated sponge, it should be gently rubbed on the affected parts. The peculiar action of the solution on the exudations or false membranes will cause them to break up more or less completely, according to their different degrees of adhesiveness to the mucous membranes, as shown by the pieces adhering to the sponge, and also, by their presence in the immediate expectoration. After each application (the author makes from two to four in the twenty-four hours, according to the exigency of the case) a mouthful of water, as a gargle or swallowed, will relieve a certain degree of constriction which follows the use of the astringent. Far from complaining of pain, the patients experience decided relief after the use of the lotion. This application may be employed much more freely, and with less danger, than violent caustics such as muriatic acid, nitrate of silver, etc., commonly resorted to. Dr. Fourgeaud knows of no other which will break down

so effectually all exudations, vegetations, pultaceous concretions, as well as the characteristic false membranes of diphtheria, whether they are situated in the mouth, pharynx, or in the vagina, neck of the womb, or any other accessible parts of the mucous membrane. He has used it with gratifying success in many cases of sore throat, in scarlet fever, in stomatitis and aphthous affections of children. Three or four applications will generally free the buccal and pharyngeal cavity of all vegetative or pultaceous growths or coatings. But when the disease takes the form of true diphtheria, when the false membranes are well characterized, although the progress towards cure is generally evident after each application, it is, of course, slower. In these cases the medicated sponge should be applied every six hours, until the diseased surface becomes entirely free from false membranes. The sponge should be well cleaned after use.

With the local treatment, Dr. Fourgeaud prescribes the following for internal administration: *R. Potassæ chloratis, ℥ij; glycerinæ, ℥j; quiniæ sulphatis, ℥j; liquoris ferri subsulphatis, gtt. xx; aquæ, ℥iij. M.* Half a teaspoonful to a tablespoonful of this mixture, according to the age, to be taken every four hours.

He has found the small quantity of the liquor ferri subsulphatis, in the above recipe, sufficient for full remedial action on the system. It dissolves the given proportion of quinine perfectly, and the mixture is of a beautiful color, clear, and free from precipitate.

Besides being a good tonic, it has a decided effect on the morbid secretions of the respiratory tubes, and of the stomach and digestive canal. Dr. Fourgeaud has found it an excellent adjuvant in the treatment of croup, and of many forms of low fevers attended with gastro-enteric debility, thickly-coated tongue, and curd-like and other exudations or pultaceous patches of the mucous membrane.

While administering this internal treatment in connection with the local, strict attention should be paid to cleanliness, pure air, and warm clothing, and the patient should take abundantly of milk, beef-tea, plain nourishing food, and a stimulating beverage, such as brandy-and-water.

ART. 101.—*Treatment of Diphtheria with Calomel and Soda.*

By EDWARD L. DUER, M.D.

(American Supplement to *Obstetrical Journal of Great Britain and Ireland*, July.)

Dr. Duer highly extols the efficacy of small doses of calomel, and large doses of the bicarbonate of soda, and the free use of nutritious food and brandy. He states that he has treated a large number of cases of all grades of severity by this plan during the past season, with satisfactory results, and he acknowledges his indebtedness to Dr. Harlow, in the first instance, for the suggestion of this plan of treatment.

The two following cases will illustrate this mode of treatment.

"Grace V., æt. five years, previously strong and well: after short prodromic symptoms and a marked chill, presented all the general and local evidences of diphtheria. Her pulse was 140, quick and feeble; skin hot, face suffused; temperature in the morning, 103.4°; great restlessness, bowels irregular, and the tonsils, with a dark background, were almost covered with the dirty-white, closely adherent diphtheritic membrane.

"Her sister Alberta, æt. seven, was taken sick the same morning, and presented an almost identical condition. The one was put at once on the chlorate of potassa treatment: 10 grains every third hour, as recommended by Vogel, and the other on calomel and soda, $\frac{1}{2}$ gr. of the former, and gr. v. of the latter, every two hours. The only topical application was used alike in both cases, a weak solution of carbolic acid as a disinfectant, and the same supporting and stimulating plan was adopted in both. The following morning I noted little change in either case, excepting that Gracie had more difficulty in swallowing,

though I may remark that neither of the children could swallow fluids without having them occasionally gush from the nostrils. During my evening visit on the second day, however, I noted the most marked improvement in Alberta, while Gracie's symptoms showed little evidence of yielding.

"Having now continued the calomel thirty-six hours, believing its effect to be rather in proportion to the time of continuance than to the entire quantity given, I withdrew it, and continued the soda as before. By this time, in this case, the false membrane was coming away in detached fragments, and there was little evidence of local trouble left; but in the case of the other child, there had, as yet, been no change for the better. On the evening of the fourth day I found Alberta's tonsils again covered with false membrane, when I renewed the use of the calomel for twenty-four hours, with the same positive result. From this time the soda, which had been continued throughout the attack, was depended on entirely. At no time did the little patient show the slightest evidence of pytalism, but as soon as she had been long enough under the influence of the calomel the false membrane seemed to yield up its connection with the tonsils, while at the same time the general symptoms began rapidly to abate. On the morning of the fifth day, the temperature had fallen to 99° and the pulse to 90, and from that time she steadily improved, and convalesced under the use of tonics and nutritious diet.

"On the other hand, Gracie, to whom the potass. chlorat. had been given, continued so alarmingly ill that I was induced to substitute the calomel and soda treatment on the fourth day, and with a like immediate result, so far as the local trouble was concerned; but her convalescence, unlike her sister's, was protracted, tedious, and subsequently complicated with bilateral paralysis of the palate and lower limbs.

"In the course of a few weeks, I had occasion to treat five other children in this family, and it is scarcely necessary to say that the same plan was adopted, all responding quickly and positively to it."

ART. 102.—On the Vomitive Action of Emetine.

By M. D'ORNELLAS.

(*Bulletin Général de Thérapeutique*, Mars 15, 1873; *Gazette Hebdomadaire*, No. 20, 1873.)

M. Gubler has stated, in his *Commentaires Thérapeutiques*, that an emetic is probably eliminated by the gastric mucous membrane, and that the vomiting observed in animals after its injection into the venous system may be plausibly attributed to the local action of the eliminated agent.

Kleimann and Simonowitsch, after having injected emetic wine into the veins of dogs, made out the presence of antimony in the early vomiting. They concluded that the emetic excites vomiting by irritating the sensory nerves of the stomach, and not by affecting a nervous centre of vomiting. The presumption of M. Gubler was thus confirmed.

Dr. d'Ornellas has arrived at the same results with experiments on the action of emetine. He concludes that emetine is eliminated by the stomach, and that vomiting certainly takes place at the very moment of its elimination.

The following are some interesting particulars of these experiments:—

Vomiting usually occurred about forty minutes after the subcutaneous injection of emetine.

Dr. d'Ornellas killed some dogs by injecting them with strong doses of the poison. He then made an alcoholic extract of the stomach and intestine, and of the material contained in these organs. The extract thus obtained, when administered to pigeons, caused vomiting.

When both pneumogastric nerves are divided in the neck the animal vomits. If the animal be kept quiet this vomiting will cease. If emetine be then injected, the vomiting will not be reproduced in some cases, and in others it occurs tardily and not to any great extent. In the latter case, it must be admitted that the impression is transmitted to the nervous centres, and to the

motor nerves by the great sympathetic, which thus, in a certain number of instances, make up for the pneumogastric.

ART. 103.—*Physiological Actions of Theine, Caffeine, etc.*

By ALEXANDER BENNETT, M.D.

(*Edinburgh Medical Journal*, October.)

From the experiments conducted by himself Dr. Bennett has arrived at the following conclusions:—

1. The physiological actions of tea, coffee, guarana, coca, and cocoa are mainly, if not entirely, due to their proximate principles.

2. Theine, caffeine, guaranine, cocaine, and theobromine are powerful poisons, inducing a series of symptoms affecting the nervous, respiratory, circulatory, vaso-motor, and glandular systems, which terminate, if the dose be large enough, in death.

3. These five principles are to all appearances identical in physiological action.

Note.—It is to be noted, that owing to the extreme scarcity of cocaine, and the very small quantity obtainable, the observations with this substance were confined almost entirely to frogs and mice, and only in one instance was it administered to a rabbit; accordingly the experiments were not so extensive as in the case of theine, caffeine, and guaranine. For this reason also, the phenomena connected with the temperature and the glandular secretions were not so completely demonstrated. In every other respect cocaine had similar actions. The same may be said of theobromine, of which Dr. Bennett was unable to obtain a large quantity.

4. In small doses, not ending fatally, these five substances produce, 1st, cerebral excitement, not succeeded by coma; and 2d, partial loss of sensibility.

5. In large doses they produce, 1st, cerebral excitement; 2d, complete paralysis of sensibility; 3d, tetanic spasms and convulsions; and 4th, death.

6. They paralyze the entire posterior columns of the spinal cord, also the entire system of peripheral sensory nerves, but the anterior columns of the cord and the peripheral motor nerves are not paralyzed.

7. They frequently produce convulsions of a clonic character, but occasionally they cause tetanic spasms, which latter are sometimes so severe as to cause opisthotonos. There is at first sight a resemblance between these spasms and those following the administration of strychnia. But in the case of strychnia the action of the poison is limited to the spinal cord, the reflex function of which is so much excited that the slightest touch causes powerful spasms. A poisonous dose of theine, caffeine, etc., on the other hand, paralyzes the sensory nerves, so that external irritations do not affect the cord; but, notwithstanding, there are strong spontaneous spasms which are probably caused by the action of the drug on the cord itself, and which spasms are not to be considered as reflex in their nature.

8. They do not produce muscular paralysis.

9. They at first increase, then impede, and lastly stop the respirations.

10. They at first increase, and finally diminish, both the force and frequency of the heart's contractions.

11. They produce at first contraction, and afterwards dilatation, of the capillaries and small bloodvessels, with stasis of the blood, indicating first irritation and subsequently paralysis of the vaso-motor nerves.

12. They affect the temperature by, 1st, slightly lowering; and, 2d, increasing it.

13. They usually produce contraction of the pupil.

14. They produce an increase of the salivary secretion.

15. They induce a peculiar form of tenesmus, accompanied by a copious discharge of clear mucus from the bowels.

The above are the conclusions at which Dr. Bennett has arrived from a large series of carefully conducted observations. He does not describe in detail an account of all these, but appends in tabular form seventy-two experiments,

showing a characteristic specimen of the effects produced by each of the different doses, with the results of post-mortem examinations, etc.

ART. 104.—*On the Sulphites and Hyposulphites in the Treatment of Intermittent Fevers.*

By Dr. GIOVANNI FARALLI.

(*A Memoir.* Milan, 1872, pp. 128.)

The general conclusions at which Dr. Faralli arrives are thus summarized by himself, viz. :—

1. That the zymotic nature of intermittent fevers is not demonstrated.
2. That although the sulphites in many cases cure intermittent fevers, yet their action is not so rapid and constant as that of the preparations of cinchona.
3. That their mode of action seems to depend on their reducing properties (viz., by removing oxygen) rather than in their antifermentative power.
4. That the only result obtained from them (as is proved by a considerable number of facts) is their great activity in reducing abdominal swellings.
5. That their too long use produces a certain degree of anæmia, and thereby favors the development of paludal cachexia.
6. That their prophylactic power, which was once conceived to exist, is not supported by exact observations like that of the sulphate of quinia.
7. That in the treatment of intermittent fevers the sulphites are less efficacious than cinchona and its compounds, and should only be used when the latter have failed.
8. That the arsenical preparations, to which it is rarely necessary to have recourse in the treatment of miasmatic fevers, may still be employed with greater advantage than the sulphites for curing paludal cachexia.
9. That, therefore, of the three methods of treatment most commonly employed in periodical fevers, the sulphites and hyposulphites, being manifestly inferior as well in prophylaxis as in treatment, must be considered less efficacious than the preparations of arsenic.

ART. 105.—*The Use and Abuse of Strychnia.*

By JAMES THOMPSON, M.B., Leamington.

(*British Medical Journal*, August 30.)

The author desired to draw attention to the abuse of nux vomica and its alkaloids in patients' hands. Several cases were given in which patients were brought to the verge of delirium tremens by inordinate use of preparations containing these drugs. One case was given where the result of an overdose was nearly fatal. It would be well if prescribers of such active preparations would note on the prescription that the mixture was not to be re-dispensed unless countersigned. In the experience of the author it was not unusual to find that prescriptions, containing stimulating materials, were kept in hand, and used to an immoderate extent, when the recipient felt out of sorts and depressed, without any consent on the prescriber's part.

ART. 106.—*Remarks on a Method of Administering Leamington Spa Waters.*

By JAMES THOMPSON, M.B.

(*British Medical Journal*, August 30.)

By the present mode of administration of mineral waters only those invalids who can resort in person to the spring can obtain the water in the natural

sparkling state in which it issues forth. Others, who, from personal circumstances or the nature of their maladies, are unable to come to the well, send for a supply; this, when they come to drink it, they find to be much more unpalatable than the freshly-drawn water. In a short interval after the water is drawn the carbonic acid gas which it contains is driven off, and it then becomes flat and unpalatable. The proposed method will remedy this. The Spa water is artificially charged with gas under pressure, and is supplied in French siphon bottles containing three doses each. By this means invalids at home can have a much more palatable drink, and the beneficial medicinal properties of mineral waters are preserved for an indefinite time.

ART. 107.—On a Peculiar Coloration of the Urine caused by Senna.¹

By M. GUBLER.

(*Gazette Hebdomadaire*, No. 34, 1873.)

The author has found that the urine of patients who are taking senna has an intense yellow color with a green reflection, like the urine in icterus. That bile takes no part in this coloration is proved on the addition of nitric acid. If a piece of caustic potash be thrown into a tube containing urine charged with senna, a magnificent purple color will be produced. Nothing like this is produced by the action of potash on icteric urine. The coloration may be produced in a patient who has taken senna, whether in infusion or tincture. Urine charged with senna does not present, like normal urine, a rose color under the influence of nitric acid.

M. Gubler has also proved that an infusion of senna when treated by caustic potash will take, in a certain degree, this purple color. But the phenomenon is not so marked in this case, and M. Gubler thinks that in this case a phenomenon occurs analogous to that afforded by asparagus, turpentine, copaiba, etc. A certain degree of oxidation in the organs is necessary in order to produce this peculiar odor after asparagus.

A much less intense coloration has been obtained by M. Gubler with rhubarb. This, as well as the coloration caused by senna, is probably due to chrysophanic acid which is present in both drugs.

The coloration due to senna generally persists for twenty-four hours.

ART. 108.—Bromide of Potassium as a Febrifuge.

By CHARLES MACLEAN, M.B., Applecross.

(*British Medical Journal*, July 5.)

The following particulars of a case illustrate the value of bromide of potassium in fevers:—

"January 10. B., a well-nourished woman, aged about forty, was taken ill four days ago, with a well-marked attack of enteric fever. Pulse, 140; temperature, 105.2° Fahr. The respiration was hurried; some sibilant *râles* were heard over both lungs. The expression of countenance was anxious. The tongue was fæd at the edges, with a whitish fur down the middle. The bowels were relaxed; the evacuations somewhat bloody. There was tenderness on pressure in the right iliac region. I gave a dose of chalk mixture, with ten minims of tincture of opium, to be followed by twenty grains of bromide of potassium three times a day.

"13th. There was remarkable improvement in all the symptoms. Pulse, 100; temperature, 101° Fahr. The characteristic pea-soup stools were present, without any blood. There was occasional cough, but hardly as troublesome as on this last day. The respiration was little, if anything, above the normal

¹ Communicated to the Société de Thérapeutique, Paris.

frequency. Some pain was still occasionally felt in the right iliac region. The bromide was continued as before.

"14th. She was much the same as the previous day, and was ordered to continue the medicine, with milk and farinaceous diet.

"15th. She was improving. Pulse, 94; temperature, 99.5°. The evacuations were less frequent, and of the same character. The tongue was clean and moist. The countenance was placid. She was ordered to continue as before.

"17th. The medicine was omitted.

"19th. Pulse, 116; temperature, 100°. The tongue had become, as at first, furred in the middle, and was protruded tremulously. The face was flushed and anxious. Respirations, 45 in the minute. Sibilus was heard extensively over the chest, but no small crepitation was audible, on the most careful examination. Thirst was complained of. The bromide was recommended at once; and diluents were given *ad libitum*.

"22d. Pulse, 90; temperature, 98°. The countenance had a cheerful expression. The tongue uniformly clean. The bowels were well. The cough was sometimes troublesome, but the respirations were 22 in the minute.

"23d. The dose of bromide was reduced to 12 grains.

"On the 29th convalescence was quite established, and on the 31st she was up most of the day and fast gaining strength."

ART. 109.—*A Contribution to the Therapeutical History of Calomel.*

By RANIERI BELLINI, M.D., Professor of Experimental Toxicology in the Royal Institution of Florence.

In an essay on the above subject Prof. Bellini deduces twenty-four several conclusions, into which he sums up what he proposes as results established by clinical experience and experiments in the chemical laboratory. Of these we subjoin what appear to be the most practically important:—

That calomel introduced by the mouth into the fasting subject is, in a very small portion of the stomach, and a greater of the small intestine, changed into a soluble mercurial compound.

That in the stomach this change is effected by the lactic acid and the alkaline chlorides, and in the small intestine by the alkaline carbonates of the enteric fluids.

That calomel introduced into a stomach which is digesting protein aliments is either wholly or almost decomposed within that viscus, and that the results of such decomposition are metallic mercury and a soluble mercurial compound.

That acid drinks and fruit should be withheld during the use of calomel; but that magnesia, whether calcined or carbonated, administered during a course of calomel, promotes the local action of that mercurial.

That the use of calomel may be injurious when contemporaneous with that of ammoniacal salts, and also in certain diseased conditions, *e. g.*, in those suffering from ammoniema, uro-ammoniema, cholera, typhus, etc.

That the use of calomel might cause poisoning when administered contemporaneously with the hydrochloride of ammonium, with the *aqua lauro-cerasi*, with the alkaline or the metallic iodides and bromides, the alkaline sulphides, and the alkaline hydrobromates and hydriodates.

That opium and its preparations exercise no decomposing power on calomel, but render its effects less perceptible, not by any chemical action, but by their control of the sensibility.

That calomel applied externally, whether to a whole or an ulcerated surface, or introduced hypodermically, may be rendered soluble by the alkaline chlorides of the organic fluids with which it is brought into contact.

That such external application may produce severe local lesions, if there be contemporaneous internal use of the alkaline iodides, bromides, or sulphides, or even of sulphur itself in small and frequent doses.

And that lastly, clinical observation is in complete harmony with the results of chemical and physiological research.

ART. 110.—*On the Oleate of Mercury.*By **BERKELEY HILL, M.B., F.R.C.S.***(The Practitioner, April, 1873.)*

Mr. Berkeley Hill states that since this preparation was introduced to the notice of the profession by Mr. Marshall, about a year ago, he has employed it in a large number of cases in hospital and private practice, with the following results. In the first place, if continuously applied, it quickly produces the usual effects of mercury on the system, and if used in sufficient quantity causes salivation. Secondly, it is apt, in delicate fair-skinned persons, to excite violent smarting pain, which, though rarely lasting more than half an hour, if so much, is enough to disgust them with the remedy. The irritation may even cause erythema and slight vesication, though he has never seen any more serious local effect than this. To avoid these undesirable occurrences, Mr. Marshall has devised three preparations of different strengths, containing 20, 10, and 5 per cent. of peroxide of mercury respectively: to the weakest dilution, 10 per cent. of morphia as oleate of that base is added to allay the irritation from the mercury, and assuage the local pain of inflammation when used for affections of that kind.

The preparations are best made according to a formula prescribed by Mr. Martindale, the dispenser to University College Hospital. For the 20 per cent. solution, stir 10 drachms of oleic acid in a mortar, while 2 drachms of precipitated peroxide of mercury are gradually sprinkled into it, and triturate frequently during twenty-four hours, until the peroxide is dissolved and a gelatinous solution is formed. The 10 per cent. solution is made in exactly the same way, but the smaller quantity of oxide renders the compound more fluid. The morphia and mercury oleate is made by dissolving 1 drachm of pure alkaloid of morphia in 5 drachms of oleic acid, and mixing the solution with 5 drachms of 10 per cent. oleate of mercury. It is necessary to use the oxide freshly precipitated from an aqueous solution, not one produced by dry heat; and heat should not be employed to dissolve the mercury in the acid, as even very moderate elevation of temperature causes some decomposition of the oxide to take place.

With one or other of these preparations the application of this form of mercury can be continued on even very sensitive skins. When used for inunction instead of the gray ointment, about a scruple or half a drachm of the 20 per cent. jelly should be rubbed gently into the flank till it is absorbed by the skin, which occurs in about eight or ten minutes, leaving the skin almost dry and not greasy. This may be repeated once or twice in twenty-four hours, of course changing the site of the inunction each time. The anointed part may be washed next day without fear. This quantity usually causes swelling and slight soreness of the gums in a week if anointed once a day, and in four days if applied twice daily. Before using the stronger solution it is well to test the skin with the weaker form, lest too energetic application of the oleate should cause painful irritation and trouble. But Mr. Hill has found the 10 per cent. solution most useful as an adjuvant to the ordinary treatment by iodide of potash internally, or for persons whose stomachs do not bear mercury well. For example, in cases of leproid, or tubercular eruptions, relapsing after disappearing more than once, this form of mixed treatment is usually very successful.

The great advantage of the oleate over any other form of mercury when externally applied lies in the rapidity of its absorption, which makes it very serviceable as a kind of cosmetic—that is, to paint over syphilitic papules or stains in the face or other exposed parts. For this purpose Mr. Hill directs the patient to rub into the spots themselves, night and morning, a little of the 20 per cent. solution with the tip of the finger, the usual treatment being continued at the same time. It is remarkable to observe how rapidly the papules sink down and grow pale when the oleate is directly applied to them. If the

20 per cent. is too stimulating, the weaker ones may be employed, though their effect is less satisfactory.

Again, the oleates are very useful in fissures of the fingers about the nails or in the palms. Rubbing the 10 per cent., or, if there is much soreness, the 5 per cent. solution with morphia, into the fingers at night, and sleeping in wash-leather gloves, is a very effectual way of healing these troublesome affections. By day the cracks should be well closed by court plaster and plastic collodion, and gloves worn out of doors.

Mr. Hill states that he has not had much success with the oleate in non-syphilitic affections, but he has not tried it extensively. It has proved a very effective parasiticide for pediculi, as its penetrating power enables it to diffuse itself thoroughly over the scalp and pubis. He has also used it to inflamed joints as a controllant of inflammatory action, but has not perceived any clear benefit to be derived from its use in such cases. In syphilitic affections the oleate is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastening the subsidence of papules and other disfigurements of exposed parts of the skin.

ART. 111.—*On the Administration of Podophyllin.*

By ALFRED E. BARRETT, M.R.C.S.

As podophyllin in some combinations produces considerable pain without corresponding benefit, Mr. Barrett calls attention to a powder which he has used for some time, and which has proved extremely useful. The following is his formula: \mathcal{R} Podophyllin, gr. ivss; extracti elaterii, gr. ivss; pulveris jalapæ comp. 3vj. \mathcal{M} .—Half a drachm of the above powder in half a pint of warm water acts most effectually, and the cholagogue effects of the podophyllin seem to be assisted by the hydragogues, the latter washing out the bile in a most satisfactory manner.

ART. 112.—*On Marienbad Water.*

By V. JAGIELSKI, M.D.

(*British Medical Journal*, August 30.)

The author explained the separate effects of the various chemical components—viz., water, carbonic acid, sulphate of soda, chloride of sodium, bicarbonates of soda, lime, and magnesia, protoxide of iron, etc. After treating of special physiological influences, he described the collective effect produced by continued use of these waters, under the following heads: 1. The mild aperient action, expressive of high solvent power, which takes place without weakening the body, the iron counteracting the influence of the laxative salts. 2. The stimulating action, a more remote effect, which takes place not on the receptacles, such as the stomach and bowels, but on more distant parts, as the kidneys and bladder, producing diuresis and an alkaline reaction of the urine, etc.; and on the circulation, nervous system, etc., through the influence of which are exerted the functions of all abdominal glands. 3. The tonic effects, expressed by a general improved state of assimilation, nutrition, etc., which, especially at Marienbad itself, give rise to an improved physical appearance in a short time, restoring all bodily and mental energies to a normal condition of health. He recommended Marienbad and its waters, as invaluable prophylactic means to obviate long and painful disorders, as well as subsequent danger of apoplectic attacks, etc.

ART. 113.—*The Theory of Counter-irritation.*

By JAMES ROSS, M.D., Manchester.

(British Medical Journal, August 30.)

Counter-irritation was defined as the application of an irritant to one part of the body in order to influence morbid action in its vicinity. The theory advanced was that (1) the influence of the counter-irritant is conveyed by continuous and contiguous tissue, and not through the bloodvessels and the nerves; and (2) the influence conveyed is always of a stimulant character. An endeavor was made to deduce the first position from the general theory of inflammation, and the author stated that the second assumption would account for all the effects which counter-irritants are known to produce in the treatment of various diseases. A stimulant action might aggravate the disease in the first stage of inflammation, and counter-irritants were known to produce this effect occasionally. At other times a stimulant action might in this stage assist the disease through its natural progress by developing the second stage of inflammation. An instance of this effect occurred when the pain of pleurisy was relieved by a blister. In such a case the disease was not checked, but the effusion separated the pleuræ, and the pain was relieved. In the second stage of inflammation, and especially in chronic cases, a stimulant action was most likely to promote health, and it was in such cases that counter-irritants were most safely employed. A similar remark might be made with regard to cases of local debility, in the treatment of which counter-irritants were found useful. Quantitative differences were found to exist in the effects of counter-irritants according, first, to the proximity of the irritant to the seat of the primary disease, and secondly, to the degree of the artificial irritation produced, and these differences were easily explicable on the supposition that the influence exerted by the counter-irritant upon the disease was of a stimulant nature.

ART. 114.—*On the Employment of Silicate of Soda in certain Venereal Affections.*

By Dr. SÉE, of Paris.

(Annales de Dermatologie et de Syphiligraphie, No. 4, 1873.)

"In November, 1872, my colleague M. Dubreuil communicated to the Société de Chirurgie a case in which, inspired by the researches of M. Dumas and of MM. Rabuteau and Papillon, on the antiseptic and antifermentescible properties of the different salts of soda, particularly the borate and silicate, he had employed with excellent results the latter in vesical injections on a patient affected with hypertrophy of the prostate and whose urine was putrid and ammoniacal.

"This communication started the idea of submitting to the external application of silicate of soda some patients under my care in the Hôpital du Midi, and the first results which were obtained were as satisfactory as those mentioned by MM. Rabuteau and Papillon in their communication to the Académie des Sciences.

"These results encouraged me and my interne, M. Goutier, to pursue our trials, which were continued without interruption until the end of December, 1872.

"The cases which we were able to collect during six weeks, although not very numerous, are so demonstrative, that I have thought it useful to publish them, so that attention may be directed to a medicinal agent which is recommended by its moderate price, by the facility and harmlessness of its employment, and by the certainty and promptitude of its action.

"Our observations were particularly directed to two categories of patients; those affected with acute or chronic gonorrhœa with or without orchitis, and those affected with penile chancres and inflammatory phimosis. It is well

known that this complication of chancre is most unfavorable; it renders the treatment difficult and uncertain, on account of the difficulty or impossibility of exposing the diseased parts, and, consequently, of applying to them any remedial agent. Besides the stagnation, notwithstanding repeated ablation, of a virulent and readily inoculable pus, may augment the extent of the disorder and create fresh sores. Of all the topical agents employed under these circumstances the best undoubtedly is nitrate of silver employed in injections made with two grammes of the salt to 100 grammes of water; these injections being used six or eight times in the day.

"But this mode of treatment, besides being expensive, is attended with two grave inconveniences; the injections of nitrate of silver are very painful, and almost always produce, when continued for some time, as is generally the case, constriction of the prepuce and a kind of fibrous induration which render the phimosis permanent and oblige the patient to undergo an operation. Nothing of this kind results from the employment of silicate of soda.

"In acute gonorrhœa injections containing silicate of soda are much less painful than those of sulphate of zinc when employed at the same period. I need not speak of injections of nitrate of silver.

"In several cases the chancres which we had to treat presented a phagedæmic character. In all these cases the influence of the solution was rapid and manifest.

"With regard to the dose of the agent, this varies according to the severity of the inflammatory phenomena, from one to three grammes of the silicate for 100 grammes of water. In no case did the silicate give rise to the slightest accident.

"By our observations it is shown that the treatment of acute or chronic gonorrhœa and that of soft or indurated chancres, accompanied or not by phimosis or paraphimosis, is notably abridged by the employment of the solution of silicate of soda. I cannot imagine any contra-indication which could oppose its employment."

Appended to this communication is a table of twenty-six cases of venereal affections treated by the local use of silicate of soda.

ART. 115.—*Physiological Thermometry and Mathematical Thermometry: their Applications to Medicine.*

By E. SEGUIN, M.D., New York.

(*British Medical Journal*, August 30.)

Dr. Seguin, after alluding to the confusion produced by the use of three scales of thermometer—Fahrenheit's, the Centigrade, and Réaumur's—advocated the adoption of a "physiological thermometer" with a centigrade scale, but with zero at the normal line of health, as determined by Becquerel and Brescht (*i. e.*, 98° 6' Fahr., 29° 6' Réaumur, or 37° Centigrade). He also proposed the substitution of mathematical tables of vital signs, easily written, and capable of being understood by nearly every one, for the graphic charts of the thermometric registration now often used, which he described as being difficult of application, and limited in use.

ART. 116.—*On the Physiological Action of Trimethylamine.*¹

By M. LABORDE.

(*Gazette Hebdomadaire*, No. 25, 1873.)

1. The so-called impure propylamine or trimethylamine, which has been recently used in the treatment of articular rheumatism, exerts primarily its action on the central nervous system, especially on the spinal cord. Its action,

¹ Communicated to the Société de Biologie, Paris.

when given in physiological doses, is revealed by excitation and exaltation of functional disturbances of the cord, chiefly of the excito-motor, and subsequently by exaltation of the respiratory and circulating functions, whence acceleration of the cardiac movements. When it is given in poisonous doses, general depression follows this exciting action, and at this period only, that is to say, during the influence of large doses, there is retardation of the cardiac pulse and a fall of temperature. Death is produced by terminal cardio-pulmonary asphyxia. When absorbed by the stomach of the dog, three grammes, a medium dose, of trimethylamine, may be tolerated without the production of vomiting. It determines locally, especially on the tongue, some amount of irritation, which is manifested in the mucous membrane of the digestive organs, especially the stomach and duodenum, by catarrhal inflammation, injection, and superficial ulceration; and in the subcutaneous cellular tissue, when it has been injected, by veritable sloughs; it may also determine hemorrhagic congestion of the kidneys and hæmaturia.

2. The physiological action of hydrochlorate of trimethylamine is substantially the same as that of trimethylamine, but differs in its diminished intensity. Not even when administered in double dose, does the salt produce such intense effects as the base. Neither of these agents can be considered as a direct modifier of the muscular elements and contractility, and cannot, therefore, be classed among the cardiac poisons.

3. With regard to the primary physiological action on the central nervous system, trimethylamine and its hydrochlorate present a real analogy with ammoniacal compounds, especially with the hydrochlorate and acetate of ammonia, but all other things being equal they differ totally in the intensity of the effects produced. The effects of the hydrochlorate and acetate of ammonia may proceed even to a convulsive tetanic action. Trimethylamine and its hydrochlorate do not produce more than muscular trembling, and an exaggeration of the chief functional acts of the cord.

4. In regard to the therapeutical applications which may be deduced from these experimental results, they seem to be in harmony with what has hitherto been suggested by empiricism.

In physiological doses trimethylamine and its hydrochlorate, the former especially, are general functional excitants; they accelerate and render active for a time the circulation. Depression of this function results only from large and continued doses. Even small doses are not altogether harmless, on account of the irritant action of these substances on the digestive and uro-poietic organs. One cannot then regard trimethylamine and its salt as veritable antipyretics; and in regard to their excitant and stimulant action, they are far inferior in efficacy and in certainty to the ammoniacal compounds already in use, especially the hydrochlorate and acetate, which may and should be employed in smaller doses.

ART. 117.—*Use and Abuse of Purgatives.*

By F. PAGE ATKINSON, M.D., late Surgeon, St. Bartholomew's Hospital, Chatham.

(*Edinburgh Medical Journal*, November.)

In this paper, Dr. Atkinson takes into consideration the subject of constipation, and shows when purgatives are beneficial and when injurious; and also lays down some general rules for their administration.

First, then, as regards the causes of constipation: these are—

I. Deficient contraction of the muscular coat of the bowel, owing to prolonged retention of feces.

II. Deficient nervous and muscular power, occurring after fevers and exhausting diseases, or as one of the results connected with that terrible habit of self-abuse.

III. Intestinal excitement with deficient secretion, consequent on the habitual use of purgatives.

IV. Peritonitis.

The treatment in each of these cases is as plain as possible. In the first mentioned, get the patient to observe stated times for going to stool. If there is a difficulty in obtaining relief at first, give a nerve-tonic, as iron, quinine, nux vomica, etc., in combination with some purgative, as aloe, Epsom salts, compound colocynth powder, etc. A favorite form of mine is, *extracti nucis vomicæ. gr. ½; pulvis ipecacuanbæ. gr. ss.; pilulæ colocynthidis co., gr. iij; extracti hyoscyami. gr. iss. Fiant pil. ij, p.r.n.s. hora somni.*

Where the patient is suffering from constipation after an attack of fever, or some exhausting disease, as diarrhœa, prescribe rest and support, and bracing air.

In the case of self-abuse, the habit must be stopped, or but little permanent good can be expected.

Where there is intestinal excitement, consequent on the habitual use of purgatives, convince the patient first of all as to the injurious effects, and the non-necessity of purgatives; point out clearly, at the same time, that there may be some little difficulty, and that it may take a little time to get the system in a proper healthy condition; then order a cold sponge-bath every morning on rising, and a wet bandage to be worn round the waist during the day. The diet should be light and nourishing; highly-seasoned meats should be avoided, and light wines should be taken in preference to port and sherry; the mind should be kept diverted as much as possible, and the patient should take a moderate amount of walking or riding exercise daily.

If a purgative should be required at first occasionally, Dr. Atkinson recommends the following: *Extracti aloes socotrin. gr. ij; ferri sulphatis gran., gr. j; extracti belladonnæ. gr. ½; to be made into a pill, and taken at bedtime; but get the patient to abstain from using purgatives as much as possible.*

Where peritonitis exists order the patient to keep as quiet as possible; spongiopiline dipped in a decoction of poppy-heads, and camomiles or a linseed poultice, made up with the above, to be constantly applied to the stomach; opium to be given internally, and a diet consisting of beef-tea, milk, jelly, corn-flour, and lightly-boiled eggs.

Having now considered the causes and treatment of constipation, let us see what symptoms indicate the necessity for the use of purgatives.

Is it necessary, in order to the preservation of health or the recovery from illness, that the bowels should be moved every day? Most undoubtedly not, and, as a proof of this, he cited three instances at the present time where, though the persons are in perfect health, the bowels are only moved once a week. During illness nature often makes this effort towards the preservation of strength—e. g., in quinsy—and she again sets to work to perform her natural duties as soon as the strength is sufficient for the purpose. And, again, to show what may be done mechanically, he mentioned that in one case where he thought hectic fever might come on if the patient were at all lowered, he kept the bowels locked up for one month, and the result was an excellent recovery.

See, too, what nature does when the system has become exhausted by diarrhœa or fever; she measures the end by the necessity of keeping all things quiet till the patient is sufficiently strong.

In the commencement of fever serious harm may be done by the administration of a purgative, for the bowels may get into such an irritable state that nothing will quiet them. This especially holds good with respect to enteric fever.

It must be remembered that purgatives cannot draw off morbid poisons, or get rid of any mechanical obstruction in the bowels, any more than they can remove a clot on or in the brain.

The habitual use of purgatives amongst women Dr. Atkinson believes to be one of the most fertile causes of hypochondriasis (upsetting, as they must do, the stomach and the solar plexus of the sympathetic), as well as of uterine and intestinal congestion. They are useful when used with discretion in amenorrhœa; dropsy resulting from disease of the heart, liver, or kidneys; sciatica, when dependent on a loaded state of bowel; and in cases where there are dull, heavy, and languid feelings, with a disinclination to mental and bodily exertion, an irritable temper, failing appetite, and coated tongue. The nature of the

purgative must depend, of course, on the nature of the case; but in amenorrhœa aloes and myrrh pills are the best; in dropsies the compound jalap powder is of most service; in sciatica, the compound colocynth pill, or the compound decoction of aloes, may be recommended; in hæmorrhoids, the confection of senna; while in cases of biliousness, a blue pill, followed up by a dose of Epsom salts, appears to give the most ready relief (the blue pill acts on the duodenum, and hurries the bile downwards, while the Epsom salts cause the other part of the bowel to contract, and so evacuate the bile before it has a chance of being reabsorbed into the blood). It often happens that slight biliousness may be got rid of by exercise, a light diet, and a little effervescing saline. Supposing a necessity to exist for the administration of a purgative, it is often a matter of doubt how often the dose should be repeated: the rule be adopted was to repeat it once, and if after this there was no action, to give a copious warm-water enema. This is safe practice, and the desired result is almost always obtained at once. He recollected on one occasion being consulted by a fellow-practitioner regarding a case where a succession of purgatives had been given without any effect, for a supposed case of stoppage, and the patient was said to be sinking. He advised his friend to order fomentations to the stomach, and a full dose of laudanum. This he did, and the patient began to recover from that moment, and eventually got perfectly well. From all he could see, he would say the less we make use of purgatives the better. Nature knows her own work, and if we take regular mental and bodily exercise, eat and drink moderately, we shall find this as a rule quite sufficient for keeping us in good sound health, and also for preserving a *mens sana in corpore sano*.

ART. 118.—*The Danger of Badly-made and Old Catheters.*

By M. DEMARQUAY.

(*La France Médicale*, No. 28, 1873, and *Edinburgh Medical Journal*, November.)

This apparently trite and trivial matter is the subject of an important paper by M. Demarquay, from which we extract the following conclusions:—

In many cases patients using catheters break off pieces in their bladders, and such accidents are dangerous and troublesome. The fracture is due, in some cases, to bad manufacture; in others to the age of the instrument. Nearly all Parisian instruments are liable to become brittle by age. Also special conditions of the patient render catheters liable to break. These conditions may be either in bladder or urethra. If a catheter has been long in a bladder which contains pus it *sometimes* will be found to have the point altered and brittle, but this is not invariable, nor does it seem to depend on the *quantity* of the pus in the urine. What causes the difference? Ammoniacal urine does so, but there are special conditions of inflammation which still require study in this point of view. Well-made instruments, and especially those made of vulcanized India-rubber, alter more slowly, but even they do alter in time. The changes are of two kinds. In some the varnish comes off, and the substance of which this instrument is made comes to pieces, and some layers of it may even fall into the bladder; or the roughened instrument may become coated with calcareous deposit, become rough, and cause much suffering on its removal.

In other cases a catheter may, after some days, or even some hours only, in the bladder, be removed greatly altered, not so much in the part which had been in the bladder as in that which was in the urethra. He lately saw this occur after only twelve hours in a patient who had stricture of the urethra. From his case he made out: 1st, That the alteration in the instrument was proportioned to the amount of inflammation in the canal, and to the alkalinity of its secretions; and, 2d, that the better the instruments were made the less change took place. Great differences exist in the manufacture of instruments. After a careful description of the methods of manufacturing good and bad instruments respectively, M. Demarquay points out that the bad ones can be

made more cheaply than good ones, and that, consequently, large numbers of dangerous instruments are made and exported. He suggests that instrument-makers should be inspected as well as druggists, and equally punished for selling dangerous instruments. In a word, in acid or neutral urine even ordinary instruments are not liable to change, but in alkaline urine, and in proportion to the degree of its alkalinity, they do alter sooner or later, according to the quality.

ART. 119.—*On the Acoustic Principles and Construction of Stethoscopes and Ear-Trumpets.*¹

By CHARLES J. B. WILLIAMS, M.D., F.R.S., Consulting Physician to the Hospital for Consumption, Brompton.

(*The Lancet*, November 8.)

After noticing the invention of the stethoscope by Laennec, its modification by Piorry, and the introduction of the trumpet-end instrument by the author thirty years ago, he enunciates the principle of the stethoscope to be to conduct the sounds from the chest to the ear, both through its solid fibres and through its inclosed column of air. He then considers the *material* and the *form* best suited for the office. Wood, as a conductor of sound, is the best material, especially deal, and such woods as are rigid in longitudinal fibre, and yet light; the same reason makes them fit for sounding-boards of musical instruments. The only objection to wood is its fragility, especially when reduced to the shape best suited for stethoscopes. Metals are good conductors, but their coldness when first applied to the chest and ear, and their weight, are objectionable. Horn, *papier maché*, or gutta percha, would answer better; but a more suitable material is found in a preparation of India-rubber called *ebonite*, being easily formed into any shape, being also light, durable, and a good conductor of sound. With regard to the form of the instrument, after long and varied trials of stethoscopes of different shapes, the author is convinced by reason as well as experience that the trumpet-end instrument is the best. Conducting the sounds by its inclosed column of air as well as through its solid walls, this trumpet-end brings both its solid and its contained air into closer contact with the chest-walls, from which the vibrations proceed, than can be done with a conical end, or any other; and there is neither too much hollow, which causes a confusing reverberation, nor superfluous weight of solid, which checks the weaker vibrations of sound. This form is also more comfortable to the patient, and easier and more steady for the observer, because its application is by a flatter contact and a firmer base than that of conical instruments, the edges of which often give pain. After discussing the subject of the transmission of sound through flexible tubes, the author admits their power, but concludes that the sounds are more or less modified by reverberation in them, especially when long or with large hollows. Dr. Williams concludes the subject of stethoscopes by a description of two forms made in ebonite, one for the hat, another for the pocket—and of some of their uses.

The acoustic principle of the ear-trumpet is quite distinct from that of the stethoscope. The latter simply conducts pectoral sounds through its solid and its inclosed column of air. The ear-trumpet, on the other hand, acts solely as a reflector to receive the waves of sound from the open air, and to direct them into the ear as a focus. The best materials for reflecting aerial sounds are those hard and dense, such as metals, glass, porcelain, etc.; but the weight of some of these, the fragility of others, and the intrinsic tinkling note of all, form objections to their use as ear-trumpets. Still the best instruments in common use are made of silver, plated metal, or japanned iron. The lightness of aluminium would render it more eligible. Polished ebonite also forms a good reflecting surface, and although inferior to metal, has advantages over it in light-

¹ Read at a meeting of the Royal Medical and Chirurgical Society; October 28th.

ness and freedom from intrinsic sounds. The form of the ear-trumpet requires careful consideration. The simplest and most efficient reflector is a hollow cone with a wide base open to catch as large a body of sound as possible, and to reflect it in the simplest and most direct way through the apex into the ear. All repeated or secondary reflections of sound, as in parabolic and spheroidal cavities, are to be avoided; because, being retarded, they confuse the sound by an echo following, instead of adding to its distinctness. Such instruments may increase the noise, but they impair the clearness of articulate sounds, which ear-trumpets ought to convey pure, and unmixed with extraneous notes. But in point of fact these confusing sounds are met with in all ordinary ear-trumpets, causing the conch-like roar, like that of the sea heard in large shells. This noise is a reverberating echo of sounds from without, and takes its tone from the note proper to the size of the cavity or tube in which transverse or longitudinal vibrations are excited, responding to every noise or impulse. These noises are confusing, and often painful to sensitive ears, and should be avoided. They are much lessened by widening the open base of the cone; but they may be further diminished by several other expedients, as exemplified by the instruments exhibited, the most convenient of which is obliquely truncating the cone, leaving open half or more of its length. In so doing the instrument has an obvious resemblance to the ears of many quadrupeds, and probably this form is wisely designed to aid their hearing without the confusing noise of mere tubes and cavities. Perhaps, too, the hair with which the ears are fringed may subserve a like purpose, from which a hint may be taken if required.

After the reading of the paper, Dr. Williams exhibited and explained various forms of stethoscopes and ear-trumpets. Acoustics had been studied more in relation to musical notes than to common sounds, which could be better understood by bearing in mind the definition which he had formerly given of sound—*motion of a certain force resisted by a certain force*. The moving and resisting forces acting alternately in opposite directions constitute the vibrations of sound. These are best produced and conducted in hard rigid bodies. But the conduction of sound is favored also by similarity in density: thus a solid transmits its vibrations most powerfully through a rigid solid of the same density, and much less freely through air. The sounds of air but feebly affect dense solids, such as metals, which reflect or turn them back. But a solid of tense density and great rigidity, such as wood, transfers vibrations more freely from metal to air, and from air to metal, as exemplified by a tuning-fork on a sounding-board, and this property renders wood the best material for stethoscopes, which have to conduct sounds from the chest, generated both in air and in solids, to the solid structures of the ear. But the aerial sounds of the chest it transfers still more perfectly through the column of air inclosed in the stethoscope, which thus becomes a sounding-board conductor, sensitive through the rigidity of its walls and the lightness of its mass, to receive and transmit the weakest vibrations. To exemplify these remarks, the following stethoscopes were shown, with passing comments: Solid perforated cylinders introduced by Laennec; one actually made and used by him, too heavy and clumsy, and not well fitting to the ear or to the chest; unperforated cylinder, inferior in conducting power for breath- and voice-sounds. Piorry's slender stethoscope, with ivory cap and pleximeter: too small at pectoral end; ivory screws troublesome, and impair conducting power. Modification of the last, of wood only, with larger conical end, and stopper to fit, without screws: a good instrument. One of this kind had a hole in its side, to show that opening the column of air much impairs the conducting power: closing the hole restores it. Another instrument of this shape had a drum of India-rubber at its pectoral end; this, by preserving air-tight the inclosed column of air, enabled it to conduct sounds well without full contact, as on the ribs of very thin patients. The thin India-rubber water-bag of Dr. Scott Alison is useful for a similar purpose with any stethoscope, by increasing the contact and conducting power for thin subjects, or even when applied outside the clothing. Trumpet-end stethoscopes, in wood and in ebonite, made either in one piece (to be carried in the hat), or with the ear-end to take off and fit into the chest-end, thus making it strong and portable for the pocket; these are the last stethoscopes devised and recom-

mended by Dr. Williams, and manufactured by the India-rubber Company at Silvertown and Cannon-street. A binaural stethoscope, constructed by Dr. Williams thirty years ago, was also shown, made of wood, with metal tubes and ear-pieces of wood; it was found to convey sounds from the chest with exaggerated loudness, but being inflexible, it was awkward for application. The double stethoscope of Dr. Leared, shown at the International Exhibition of 1851, was a great improvement, in being flexible and fitting to the ears with a spring. The binaural and differential stethoscopes of Dr. Marsh and Dr. Scott Alison seemed to promise still further advantages to those whose hearing is equally good in both ears—a capacity which a great many do not possess. But of all these instruments, and of most long flexible stethoscopes, it must be said that, although some sounds are exaggerated, others are impaired, and there is not that distinctness and simplicity which we hear in the sounds transmitted through the short wooden or ebonite instruments.

With respect to ear-trumpets, the members were requested to try some of those in common use, of which several good specimens were before them, kindly lent for the occasion by Messrs. Coxeter and Messrs. Weiss. The long flexible ear-tube answers perfectly well for a *tête-à-tête* conversation with a deaf person, but the ear-trumpets to be used in society or in public assemblies all had more or less of the roar of reverberation, drowning and confusing articulate sounds. Of the wide conical ear-trumpets in which Dr. Williams had tried to obviate this, one was made of japanned tin-plate, with eight or ten small holes in the sides, to give vent to the transverse vibrations. This expedient was partially successful, the roar being slight and the magnifying power about ten times—that is, the ticking of a clock could be heard at ten times the distance at which it could be heard by the unaided ear. A longer cone (about eighteen inches) of stiff paper, ending in a short ear-piece of metal, was still more free from roar, and magnified the sound twelve times. This was the most successful of all the ear-trumpets. A third smaller cone, of gutta-percha, having two diaphragms of stiff paper running in the axis of the cone, with their planes crossing at right angles in the centre, to check the transverse vibrations, was partially successful, magnifying eight times. Lastly, a cone of ebonite, twelve inches long, truncated obliquely to half its length, magnified ten times, with only a slight roar excited by loud sounds. This last Dr. Williams considered likely to be the most available instrument for common use, and it would be improved by opening the cone further to two-thirds of its length, which would make it still more like the ear of a quadruped. Taking this for a model, and avoiding as much as possible tubes and cavities, which are the cause of confusing reverberation, we may hope to get means to aid the failing hearing to some extent, as we do the failing sight.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 120.—*On Inflammation.*

By ROBERT DRUITT, M.R.C.P., F.R.C.S.

(*Cooper's Dictionary of Practical Medicine*, 2 vols. London, 1872.)

The following is a summary in the form of twenty-four general conclusions given in Dr. Drutt's able article on inflammation:—

"1. Inflammation cannot be defined as to its essence, so that the best plea is to define it by its accidents as a 'diseased process attended with hyperæmia and exudation,' or with pain, heat, redness, and swelling.

"2. There are certain natural processes which resemble it in some respects, as erection, ovulation, menstruation, lactation, salivation, and the action of the intestinal mucous membrane during digestion.

"3. There are certain morbid processes into which inflammation passes by insensible gradations—to wit, neuralgia, hypertrophy, tumors, benign and malignant, mucous flux, and hyperæmia.

"4. But as neuralgia, hypertrophy, tumors, fluxes, and hyperæmia may (like the best examples of repair) occur without inflammatory symptoms, so it is clear that the term 'inflammatory' applies to the manner in which these changes take place, that is, if they take place in a rapid, violent, and painful manner (W. Moxon, 'Analytical Pathology,' *Medical Times and Gazette*, 1870, vol. ii. p. 441). The diagnosis of inflammation is chiefly founded on hyperæmia, heat, exudation, and progressive change.

"5. The superaddition of inflammatory characters to marked processes brings into play a new order of phenomena, requiring special treatment.

"6. The essential seats of inflammation are tissues in their minute structure. The vessels, nerves, and lymphatics are instruments but not essential agents. Yet some inflammations are diseases in a part rather than of it, beginning with capillary embolism or afflux of morbid blood-elements (Beale), or with the intrusion of morbid leucocytes.

"7. Theories of inflammation must be comprehensive, not exclusive. All theories heretofore in vogue have some partial truth, but no one can be accepted as a view of the whole truth. The doctrine of the state of the blood, of humors, of the influence of the nervous system, of the action of vessels, the action of 'cells,' of exudations, of embolism, and of leucocytes, are not incompatible, but may be held as so many parts of a harmonious system.

"8. Inflammation of any part must be considered an expression of irritation or wronged vitality, of defective resistance to causes disturbing the processes of nutrition; the liability increasing in proportion to the weakness and sensibility. Injury to living tissue 'renders it incapable,' as Goodfellow has well expressed it, 'of exercising its proper affinities,' of growing in harmony with the organism of which it forms a part. The same rule holds good, as Virchow has shown, with regard to vegetables as to animals.

"9. It is the characteristic of high health and vigorous life that injuries are healed without nerve irritation and inflammation, and that morbid states of the blood, from improper food, cold, or the like, are got rid of by the normal processes of oxidation and excretion.

"10. It is under conditions of weak health and lessened vitality that fevers and inflammations are most likely to occur.

"11. There is nothing benevolent or conservative in fever and inflammation.

They are grievous wastes of force and substance, and imply a prodigal production of the lowest amœboid forms of organization.

"12. It is a pernicious doctrine to hold, that 'nature, feeling herself injured, sets up inflammation to restore the damage or recover the health.' If there be damage, it is the duty of the practitioner to remove causes of irritation and to quiet the nerves, till natural processes of oxidation and elimination shall have got rid of any material cause, and till an injured or fatigued organ can recover its nutrition.

"13. The best result of inflammation is that it sometimes produces a new organ of oxidation or elimination, as in gout, mucous flux, and critical abscess. But as these may risk life and health, it is the surgeon's duty to render them needless by the means just mentioned.

"14. Of the causes of inflammation some reach the part from without, as wounds; others through the blood. In the latter case the blood is sometimes the mere vehicle, as of cantharidine to the kidneys. But the real blood diseases are those produced by some modification of that fluid, whether spontaneous or resulting from chemical substances acting as ferments (6 supra).

"15. The last-mentioned class of cases constitute the 'fevers' of which local inflammations are products and symptoms. In a true 'local' and traumatic inflammation the feverishness is secondary and symptomatic.

"16. But in all great idiopathic inflammations, and in the cases of injuries in which septicæmia has occurred, the local symptoms are as secondary as are the lesions in typhoid or scarlatina.

"17. For the great idiopathic inflammations, just as for acute rheumatism, we ought to restore the term 'fever.' Just as we speak of rheumatic fever, so we ought to speak of gout, erysipelatous, pneumonic, pleuritic, and peritoneal fevers. So the greatest physicians always did, Hippocrates, Sydenham, Hoffmann, Hexham, and Fordyce. To speak of erysipelas, gout, or pneumonia as local inflammations is absurd. Pathology in this instance must *recueillir pour mieux sauter*.

"18. Just so inflammation, tumors, malignant and other, hypertrophy, 'tubercle,' elephantiasis arabum, and the like, ought to be taken as members of one series.

"19. We cannot attempt to give, even in the most general form, the treatment adapted to each kind of inflammation, for, in truth, that of every case must be adapted to the cause, the degree, the constitutional peculiarity, the organ or tissue involved, and the stage. Remedies that would be useful in an early stage may be useless or pernicious afterwards.

"20. It is preventive treatment which should be the surgeon's great study. In all cases of injury or threatened inflammation, by rest; if there be a wound, by providing against putrefaction and germs; in many cases after exhaustion and exposure, by a moderate use of stimulants, with a warm bath and nutritious food. In cases of wound or parturition, the first impressions on the nervous system should be neutralized by opiates. In cases where excess of food and a gorged condition of the alimentary canal exist, an incipient case may often be cut short by purgatives. In malarious cases, quinine; in gout, colchicum seems to have the power of suppressing that nervous condition which permits of local mischief; and it is for specifics of this kind, as preventives, that the practical surgeon should pray.

"21. If an inflammation be already lit up, a different order of remedies may be requisite, just as fire-engines must be had to check a conflagration, the first spark of which might have been put out by a housemaid's mop. Bleeding should be practised if the condition of the *patient* seem to render it expedient, if not, a laboring organ may be freely reached. Purgation, saline and opiate remedies and wine may be added, according to the needs of each case.

"22. In the fully-established inflammation, when the effusion or other result has taken place, the surgeon will think of giving vent to discharge, of supporting the strength, and repairing the mischief which he has not been able to prevent. There is nothing unreasonable in believing that a bath and brandy and water may prevent an attack, which may require bleeding if fully developed, and wine at its close.

"23. In the reparation of injuries, and in diseases whose course is known and regular, the treatment must be chiefly expectant.

"24. In every instance the surgeon at the bedside will do well to divest himself of all abstract and metaphysical notions, and to see before him not a 'case,' but a brother, a being of flesh and blood, whose body and soul require to be dealt with by moral and material agents, according to the needs of each."

ART. 121.—*Lectures on the Surgical Treatment of Aneurism in its Various Forms.*¹

By TIMOTHY HOLMES, M.A., F.R.C.S. Eng., Professor of Surgery and Pathology to the College.

(*Medical Times and Gazette*, June 21, July 5, 19, 26, August 2 and 23.)

LECTURE I.

It will be remembered by our readers that in the lectures delivered last year Professor Holmes described what had been done or attempted in the surgical treatment of aneurisms originating in the great cavities—the thorax and abdomen. It was then shown that there are grounds for believing that in some cases the fatal progress of thoracic aneurism had been arrested, and in a few a cure had probably been accomplished; that innominate aneurism had certainly been sometimes checked, and might possibly be cured, by Brasdor's operation; that subclavian aneurism is not absolutely incurable; and that in aneurism of the abdomen compression as a means of cure has taken rank as a recognized operation.

The object of the present course of lectures is to review the progress of surgical practice, since the time of Mr. Guthrie, as applied to the treatment of aneurisms in arteries more distant from the heart. There will be no difficulty in proving that there is no known form of external aneurism which may not be cured without any surgical operation. The cure of such a disease as axillary aneurism, by a few hours' pressure under chloroform, or of carotid aneurism by the compression of the patient's own thumb, are real triumphs, of which John Hunter, who himself made sedulous efforts to obtain them, would have been proud.

An attempt will be made to discover what are the conditions in each form of aneurism which render such "consecutive proceedings" possible, and to induce surgeons to pause before resorting to operations which, in most regions of the body, are very fatal in their results.

It may be doubted whether surgeons are even yet fully aware of the fatality of the operation of ligation of the larger arteries. It is true such fatality does not form any argument against the use of the ligature if no better treatment exists; but it is a reason why some other method should be sought after. On the other hand, compression, as applied to carotid, axillary, or subclavian aneurisms, has been either slighted or denounced by surgeons, even up to the most recent time.

The professor stated that in advocating the use of compression he would not have it supposed that he intended to decry the ligature, or to represent compression as either easy, safe, or certain in any case, or to recommend its adoption in every instance of any given form of aneurism. Compression, like every other surgical procedure which is effectual in the treatment of formidable diseases, has its own risks of death or failure.

The lectures of this course must, from the extent of the subject, be restricted to aneurism of the neck, head, and upper extremity. The main points, to which attention now will be drawn, are—

1. The superiority of the modern method of ligature with catgut, cut short and buried in the wound, does not preclude the employment of compression.

¹ Delivered at the Royal College of Surgeons, June, 1873.

2. There are forms of carotid aneurism easily curable by compression; and the compression of the carotid, though difficult and painful at first, may often be rendered successful by perseverance on the part both of the surgeon and the patient. For these reasons the ligature of the carotid, which has hitherto been a very fatal operation, ought, as far as possible, to be avoided.

3. When the ligature of the carotid becomes necessary, it may often be advisable to evacuate the contents of the sac and secure the distal end of the artery.

4. Brasdor's operation on the carotid artery, though very rarely indicated, yet rests on sound anatomical and surgical principles.

5. Traumatic aneurisms, and wounds of the vertebral artery, are often confounded with lesions of the carotid, but such injuries ought to be diagnosed from those of the carotid, and may very probably be successfully treated by compression or by the old operation.

6. Under the term "Orbital aneurism" appear to be comprised several different affections. Some of these lesions appear to be spontaneously curable, or to have little tendency to a fatal result, and the others are very probably often curable by milder measures than the ligature of the carotid, which should be as long as possible avoided in this disease.

7. It is possible that in some rare cases intracranial aneurism may be diagnosed and successfully treated.

8. Arterio-venous aneurism in the neck is usually, but not always, harmless.

9. There are many cases of axillary aneurism which are curable by compression, and many instances of cure by this method are already known. Ligature of the subclavian, on the other hand, is a very deadly operation, and the more so the higher the aneurism extends.

10. Though Mr. Syme appears to have been in error in speaking of the old operation as being generally preferable to the Hunterian ligature in axillary aneurism, yet there are cases of injury, and more rarely of aneurism, of that artery in which a surgeon may be justified in preferring it—having always before his mind, however, the possible necessity of amputation.

11. Manipulation, or some other method of local treatment, may possibly be successful in some cases of axillary aneurism, but there is no trustworthy experience on this head at present.

12. Brachial aneurism—traumatic or spontaneous—as also similar aneurisms below the bend of the elbow, may be usually treated with success, in the absence of heart disease, which, however, often complicates the spontaneous form.

13. Arterio-venous aneurism, at the bend of the elbow, is now commonly made amenable to digital compression, properly applied.

The treatment of aneurism by compression is the chief question of the day in the surgery of this disease. It has its failures and its dangers, as well as its cures; and its success depends not only on the adaptability of the case for such treatment, but also on the degree of care and completeness with which it is carried out. The failures of compression are usually due to want of care or of knowledge on the part of the persons to whose supervision the surgeon is generally obliged to commit the case. The case related by Vanzetti, in the *Gazette des Hôpitaux* (page 519, 1862), is very instructive, and led that surgeon to the determination never to give up the attempt at cure by digital pressure in any given case till he had tried it himself. It is desirable that we should know what has really been effected by pressure in the hands of the general run of surgeons—i.e., how far it has come into general use in each kind of aneurism, and whether the result has been such as to show a marked improvement upon the previous practice. For the decision of this question, Professor Holmes has compiled a table of 337 cases of aneurism recently under surgical treatment at more than thirty hospitals situated in London, the provinces, Scotland, and Ireland. These, being taken without selection or rejection, just as they occurred in practice, give, no doubt, a fair view of the prevalence of the various forms of this disease and of the means adopted in their treatment.

It must not be concluded from the frequency of failure of compression that

the carbolized catgut ligature of arteries ought to supersede any attempt to treat a case by compression. We have undoubted anatomical proofs that the catgut ligature may be removed by absorption, the ligatured vessel remain undivided, and the wound heal by first intention without the patient even being in danger of secondary hemorrhage. This immunity from secondary hemorrhage is attributable quite as much to the rapid union of the tissues which support and nourish the artery as to the mere use of the material. Cases were referred to which show the reality of union after ligature of an artery without any division of its external coats. But then other cases are forthcoming to prove that this method of ligature is not without its drawbacks; in fact, ligature of arteries with carbolized catgut, in spite of all known precautions to insure rapid union, is exposed to the same risks of failure as beset every other surgical procedure we know of. Still, for all that, it is the best method of tying an artery which has been as yet invented, for it holds out a prospect of union by the first intention, and with no possibility of secondary hemorrhage, which is impossible when the common silk ligature is used. It is, however, a long step from this to the other extreme, which urges that a patient is safer with this form of ligature than under the trial of compression. On the contrary, it is conclusive that the ligature should be avoided in any form of aneurism in which there is a fair prospect of cure without operation.

After his remarks upon the comparison of the treatment by compression with that by the catgut ligature, the Professor passed on to the consideration of the first form of aneurism on the list—viz., of the common carotid.

Any part of this vessel may be the seat of disease or of injury, but undoubtedly the upper end near the bifurcation is the most usual position for aneurism of the common carotid, whether from disease or accident. Attention was first called to three characteristic examples of this lesion, to show the applicability of the three main resources of surgery in its treatment. The first, a preparation in the Hunterian Museum, No. 1685, showing the ease with which the disease might in all probability have been cured by pressure. The second, a diagram, taken from Scarpa's work, showing a large tumor springing from the left common carotid artery by a rounded orifice of small size not much above the root of the neck. The internal coats of the vessel are distinguishable for some little distance around the orifice. The tumor is of large size, displacing the trachea and œsophagus, and extending upwards beyond the bifurcation of the artery. Though in this condition the case was probably quite incurable, yet there must have been a previous stage (when the tumor was smaller) when a hope of success by Brador's operation might have been entertained, even if distal compression had failed. The third case, one of diffused aneurism near the bifurcation of the common carotid vessel—produced from the museum of St. George's Hospital—shows well the mode of formation of this form of aneurism—viz., a small rupture of the artery consequent upon the giving way of an atheromatous patch. Here ligature of the carotid would have given a good chance of recovery at one time.

Aneurismal dilatation occurs not unfrequently at the root of the carotid in the neck (usually it not always, on the right side), merely as a feature in that general dilatation of the great arteries near the heart. This does not involve such danger as true aneurism does. Illustrative cases were referred to; but most surgeons probably have had opportunities of watching patients in whom the root of the carotid has been sufficiently dilated to give the appearance of aneurismal pulsation, but where all other signs of aneurism have been absent. The patients suffer no great pain, or alteration in the local condition. Such cases occur always, the Professor thinks, beyond middle life, and usually in old age.

It has been imagined that an aneurism of the left carotid might exist having its mouth between the arch of the aorta and the sterno-clavicular articulation. The question is an important one as bearing on Brador's operation. Professor Holmes is not aware that any preparation of an aneurism in this precise situation has as yet been put on record. Scarpa's case prevents us from denying the possibility of a carotid aneurism occurring in the thorax in the same manner as it arose in the vessel a little higher up.

The frequency of aneurism of the carotid artery, as exhibited by the list referred to, shows it to have existed in twelve out of the 337 cases collected from British hospitals during the last ten years. In one of the cases the aneurism affected the external carotid; it was of the traumatic form. In all the rest the common carotid seems to have been the situation of the aneurism. All were spontaneous except one. Three of the patients were females, the rest males.

Of the various methods of treatment in eleven of these cases (for one woman was discharged without any treatment being attempted), the ligature of the common carotid was resorted to in nine of them; in the tenth case the common carotid was tied for a traumatic aneurism of the external carotid following a suicidal wound, and this terminated fatally; in the eleventh case instrumental compression was employed successfully. Of the nine cases in which the common carotid was tied, five died, and in a sixth case the cure of the aneurism was by no means complete when the patient died of visceral disease.

The methods of treatment which are usually applicable in carotid aneurisms are (1) compression below the tumor, (2) proximal ligature, (3) distal ligature. Distal compression is a plan eminently worthy of trial in small aneurisms situated low down in the neck. In such cases as we read of in Wardrop's work, of an aneurism, thought to be carotid, situated so low in the neck as to have a large portion of the common carotid accessible above it, the surgeon ought to test the effect of pressure applied to the distal side of the tumor. It may, perhaps, be right to add direct compression to our list of remedies in carotid aneurisms, since Ciniselli has put on record a case in which this method was used with success. Pressure was made by bandaging a piece of soft sponge over the tumor. This case is quoted at page 290 in the "Biennial Retrospect," for 1867-68 of the New Sydney Society from the *Annali Universali di Medicina*, 1867. In the same paper Ciniselli refers to a case somewhat similar to his own.

But though we may allow that distal compression or direct pressure may be employed occasionally in cases of carotid aneurism, and that very rarely the opening of the sac may be attempted, it is generally true that the three methods above named are those which as a rule present themselves to the mind of the surgeon. The application of effectual pressure to the carotid artery is by no means an easy task for the surgeon or the patient. The early application is usually accompanied with unpleasant cerebral symptoms, especially a disposition to faintness; subsequently the severity of the pressure gives rise to suffering from the irritability of the tissues. All this is experienced when the artery is compressed for orbital or cranial aneurism; much more so is it when the presence of a tumor in the neck prevents the surgeon varying the points of pressure.

The pressure may be applied in various ways, instrumental or digital. The latter is on the whole more applicable in the neck than instrumental, although the compressor devised by Mr. Coles possesses many of the advantages of the finger. One important one, however, it lacks—viz., it cannot make pressure in any other direction except backwards against the spine. Now, it has been found that in some cases in which this direct backward pressure has been intolerable a different manœuvre has succeeded. This was so in a case recorded by a M. Rouge, of Lausanne. Pressure backwards could not be endured, but the aneurism was cured by five assistants, who took turns in compressing the artery by seizing it between the thumb of the left hand in front and two or three fingers behind it, thus isolating the vessel from the jugular vein, and pneumogastric nerve.

LECTURE II.

The Professor, continuing the subject of carotid aneurism, observed that the time occupied in the cure of a large carotid aneurism by interrupted compression is usually considerable. The only case recorded in English practice is that under Mr. Sheppard, of Worcester, reported in the *Medical Times and Gazette*, vol. ii., 1863, p. 463. The patient was a policeman of intelligence, and made pressure with his own thumb for half an hour at a time as often as he could. The aneurism disappeared in five weeks.

The lecturer had met with no case on record, nor heard of any in private,

where the rapid method of pressure has been tried in carotid aneurism; yet this treatment would be advisable where the aneurism is of large size and contains clot, and the patient is unable to bear pressure without chloroform. The tendency to affection of the brain from compression would, however, necessitate great caution in watching the symptoms while the patient is narcotized. A case of innominate aneurism, under Mr. Cooper Forster, recorded in the Guy's Hospital Reports for 1873, illustrates some of the effects of prolonged compression of the carotid under chloroform. It shows the circumspection which must be enforced in any future attempt to cure carotid aneurism by similar means, though the attempt is worth making, and should be made in cases of such a nature and size as to render the cure by compression probable, but after persevering trial compression without chloroform cannot be tolerated.

To sum up present experience of this matter: five successful cases—viz., Sheppard's, Rouge's, Kerr's, Prof. Humphry's, and Mr. Gay's—have been mentioned by the lecturer. In all, except Prof. Humphry's, the pressure was digital; the only two others were unsuccessful. Thus, of seven cases of compression five were successful, and in the two which failed the ligature failed also. Thus we see that the trial of pressure for the cure of carotid aneurism is a rational measure, attended hitherto with a large proportion of success in the very few cases on record. There remains the question whether this experience affords a sufficiently favorable contrast to the results of other modes of treatment to justify us in adopting compression as the first resort of surgery in carotid aneurism. To answer this question we must turn to the records of the operations on the carotid artery—first, on the proximal side of the tumor; second, on the distal side; and finally, by the old method.

The treatment of carotid aneurism by ligature of the artery was first attempted by Sir A. Cooper in the well-known case which forms the commencement of the *Medico-Chirurgical Transactions*. The operation was performed in 1805, and proved fatal from inflammation of the sac of the aneurism. The preparation was from the museum of St. Thomas's Hospital, and is very interesting in itself as one of the landmarks in the progress of surgery. It shows perfectly the mechanism and effects of inflammation of the sac and cellular tissue around it—one of the usual causes of death after ligature of the carotid below the tumor.

This danger attaches more to Anel's operation than to Hunter's. This inflammation is usually regarded as due to the deposit of soft clot in the sac as the consequence of the want of any circulation through it, a point on which Broca has laid much stress. But it seems to Prof. Holmes equally probable that the proximity of the wound to the tissue of the sac is the real cause of the frequency of its inflammation. This point is not entirely overlooked by Broca, but he notices it in only a very few words. It forms, in Prof. Holmes's opinion, one of the great objections to the ligature of the carotid for aneurism of the artery itself that in a tumor which is at all large no space exists to cut down upon the vessel without great disturbance of the cellular connections of the aneurismal sac, and much danger of subsequent inflammation.

In Sir Astley's Cooper's case the inflamed and enlarged tumor has pressed on the pharynx to such an extent that it only just admits a common bougie, and on the larynx so as almost to close the glottis, and has produced inflammation of the windpipe, with deposit of coagulating lymph on its mucous surface. The coagulum in the sac appears firm enough, and there seems no reason to attribute the extensive inflammation which succeeded the operation to any irritating action of the clot, when so sufficient a cause exists in the dissection which had been carried on in the immediate neighborhood of the sac. In fact, why should soft clots exercise any irritating effect on the tissue of the sac? We see them constantly in all parts of the body remaining perfectly quiet for long periods of time and then quickly disappearing. We see aneurismal sacs, when submitted to pressure, remaining soft, with hardly any pulsation, then gradually becoming hard and pulseless, and finally rapidly shrinking. Can there be any doubt that in these cases a great part of the sac has first been filled with soft clot, which has gradually given place to laminated fibrine? Instances of aneurism filled with soft clot after the disease has proved fatal by

inflammation are by no means rare in voluminous aneurisms in any part, and especially in the thorax. In watching such cases it has appeared to Prof. Holmes that the inflammation has been provoked by accidental causes acting on tissues highly irritable from the pressure of the growing sac; that the pulsation did not begin to slacken till the inflammation had manifestly commenced—in a word, that the coagulation was produced by the inflammation instead of the reverse. The neck especially is a part in which inflammation of the cellular tissue is apt to spread rapidly and to cause great infiltration; so that this traumatic cellulitis after ligature of the carotid soon produces fatal pressure on the parts around.

The fact, anyhow, remains that the ligature of the carotid near the aneurismal sac is very often followed by inflammation of the latter; and in a case of Mr. Vincent's, reported in vol. x. of the *Medico-Chirurgical Transactions*, in which the inflammation commenced unmistakably in the wound, Mr. Vincent distinctly states that the aneurismal sac was contracted around a firm coagulum, and that its internal surface bore no indication of having been inflamed.

Sir A. Cooper's first case was unsuccessful, but the same volume contains his second and successful case. This was the first instance of a completely successful result in carotid aneurism; for though a Swedish surgeon in 1807 (i. e., between Sir Astley's two cases in 1805 and 1808) tied the carotid for a pulsating tumor, the nature of the tumor seems uncertain, and it recurred fifteen years afterwards. In the second case of Sir Astley's, the aneurism was above the bifurcation and situated upon the internal carotid; and it is remarkable that the ligature did not entirely abolish the pulsation of the tumor, though the artery was tied with two threads and divided between them. The man survived the operation thirteen years, and died of apoplexy.

Exactly parallel to this last case is one recorded by the late Mr. Porter in the *Dublin Journal* for 1840. The aneurism was situated on the internal carotid, as was proved by dissection seven years afterwards; and in this case also it was observed that pulsation returned in the tumor four hours after the operation. In a case by Mr. Syme, reported in the *London and Edinburgh Monthly Journal* for November, 1842, of aneurism of the internal carotid, the tumor continued to pulsate after the ligature of the main trunk, though much less forcibly than before. The patient died thirty hours after the operation.

The records of the Hunterian operation for carotid aneurism are to be found chiefly in the works of Dr. Pitz (*Langenbeck's Archives*, vol. ix.), and M. Léon Lefort (*Gazette Hebdom.*, 1868); these contain those of previous investigators, such as Norris, Norman Chevers, Wood, etc.

The former collection contain 87 cases, of which 31 died, which was unaccounted for. The operation is by no means so free from danger when employed for aneurism as has been represented. The danger does not depend perhaps exclusively, or even principally, upon the operation, but on the condition of the aneurismal artery, and very probably on the condition of brain which often accompanies carotid aneurism. It is a remarkable fact that the operation has only been once fatal out of 34 times in which it has been known to have been practised for epilepsy, headache, and other nervous symptoms, in which in all probability the artery and brain were healthy or not seriously impaired.

M. Lefort's paper is somewhat more critical, and contains less details of cases than the German surgeon's paper. He mentions 53 cases, 35 of these being of the common carotid, 6 of the internal, and 12 of the external carotid and its branches, and he says that out of these 35 cases of aneurism of the common carotid less than half have been really successful. He called attention to the great frequency of suppuration of the sac after ligature; this occurred 8 times, and in 3 was the cause of fatal hemorrhage. M. Lefort, in fact, can find only 16 cases of recovery after this operation, and in exactly half of these cases there were complications which endangered the patient's life.

What, then, is the inference to be drawn from this picture of the Hunterian operation for aneurism of the common carotid? M. Lefort says that we cannot avoid those dangers which depend on the obliteration of the artery, since this is necessary for the cure of the aneurism; but that the danger which depends on the suppuration of the sac we can obviate by resorting to the old

operation—i. e., after having secured the artery on the proximal side of the sac, incising the tumor, turning out the clot, and tying its distal end. It is clear, however, that the cure by compression does not in the least degree necessitate the obliteration of the artery; and it is to be hoped that surgeons will adopt this plan of treatment more generally, and pursue it more patiently. Sufficient facts, then, prove how great is the danger incurred in tying the common carotid artery on Hunter's or Anel's method for an aneurism involving the trunk of that vessel. This danger increases as the tumor is seated lower on the artery, both because of the greater difficulty of the operation and because of the proximity of the sac to the ligature.

The next point is to consider whether there are any, and if so what, cases in which Wardrop's suggestion of ligature after the manner of Brasdor is admissible. The number of cases in which Brasdor's operation has been performed for aneurisms believed to be of the common carotid artery is eight. The only case, however, in which we have definite anatomical evidence of the existence of an aneurism exactly confined to the carotid, and of its cure by Brasdor's operation, as well as the mechanism by which that cure was brought about, is Lambert's. This case is well known, and is described in Wardrop's work, page 36 and following. The way in which Brasdor's operation cures in cases where no branch intervenes between the aneurism and the ligature is clearly seen from this case. The blood is brought to a standstill in the artery and in the sac, the coagulum in the artery extends into the aneurism, obliterating the mouth of the sac, and finally filling its cavity. This is strictly analogous to the partial cures which are produced in innominate or aortic aneurism by the ligature or by the embolism of the common carotid, when the coagulum in this vessel extends down into and obliterates that portion of the sac through which the blood-stream used to pass into the carotid.

Lambert's case proves that an aneurism or an aneurismal dilatation of the root of the carotid may be cured by Brasdor's operation. But cases strictly amenable to Brasdor's operation are exceedingly rare, and there seems no prospect of radical cure by this method except in such a case as Lambert's, where the aneurism is limited to the root of the carotid itself, and these are extremely few. No specimen of the kind is to be found in the museums of this city. Nor can such a case be diagnosed with certainty during life from aortic or innominate aneurism. The practical inference is that the distal operation is justifiable in cases in which symptoms are such as to indicate growth of the aneurism upwards along the course of the carotid with increasing pressure on the trachea; but that it must be held to be a very dubious course. And in any such case the effect of distal pressure on the carotid should be carefully noted. If it has no effect on the pulsation of the aneurism, this is a discouraging augury for the success of the distal operation, though it is not absolutely a contra-indication. If, on the other hand, it materially checks the pulsation, an attempt should be made to treat the aneurism by methodical pressure on the upper portion of the carotid.

It remains to speak of the bold operation carried out by Mr. Syme in a case of traumatic aneurism resulting from a stab which had punctured the left carotid so near the clavicle that no pressure could be exercised below it, even after it had been exposed through the opening of the sac. The case is reported in his "Observations in Clinical Surgery," at page 161. It is an interesting practical question whether a somewhat similar operation ought not to be performed in spontaneous aneurism, where the tumor extends so low that the proximal end of the artery can only be tied close to the sac. It is, however, a suggestion which has not been put, as yet, to the test of practice. M. Lefort's reference to such an operation, as having been carried out by a "surgeon of Leeds," cannot be found recorded.

The experience of surgeons hitherto, then, leads to the conclusion that aneurism of the trunk of the carotid artery may be very often treated successfully by compression, and that the cure by compression frequently leaves the artery unobliterated, and exposes the patient to far less risk of cerebral mischief; that the ligature of the carotid for such tumors is extremely dangerous, and ought not to be undertaken until attempts, well devised and perseveringly

carried out, have failed to effect the cure by compression; and that when the surgeon has been compelled by the position of the tumor to place his ligature close to the proximal side of the sac, it is worth very grave consideration whether it would not be better to evacuate the tumor, and tie the distal portion of the artery also; finally, that cases do occur in which Brasdor's method holds out a rational hope of cure, but that this operation ought not to be practised except in cases of growing aneurism, where distal pressure checks the pulsation of the tumor, yet has failed to effect a cure.

Now as to aneurisms of the secondary carotids. There are many histories on record of aneurisms of the internal carotid artery; nor are spontaneous aneurisms of the external carotid artery apparently so very rare. No trustworthy diagnostic sign has been pointed out by which the artery affected can be distinguished with certainty—by which it can be determined whether the aneurism is seated on the internal or external carotid, or one of the branches of the external carotid artery, unless it may be the state of the pulse in the temporal, the affection of which would lead to the conclusion that the aneurism did not affect the internal carotid or not this only. But it is impossible to distinguish between an aneurism seated on the external carotid and one affecting one of its branches below the angle of the jaw. Spontaneous aneurisms of such small arteries as these latter are very rare. Nor is the diagnosis practically important. Aneurisms of the branches of the common carotid, primary or secondary, and situated below the jaw, should be treated by measures directed to the common trunk. The close proximity of the reflux stream from the external carotid in aneurism of the internal carotid artery does not seem to interfere with cure after the Hunterian operation. Without going so far as Broca, and saying that a certain amount of circulation through the tumor tends to harden the clot and promote cure, experience shows that such circulation is not inconsistent with the prospect of cure. In spontaneous cervical aneurism situated on one of the secondary carotids, or on one of the branches of the external carotid, persevering efforts should be made to cure the disease by pressure. If pressure fails, the ligature of the common is to be preferred to that of the external carotid artery for an affection of the latter or one of its branches.

The external carotid has hitherto only been tied for wound, hemorrhage, erectile or cirroid tumor, for cancer of the tongue or jaw, or as a preliminary to operations. The object of tying the external in preference to the common carotid is the avoidance of cerebral disturbance; so that there seems no motive for preferring the ligature of the internal carotid to that of the trunk. The artery is smaller, truly, but the operation is more difficult, and the ligature is placed nearer the sac.

It is not so certain that the same practice should be followed in traumatic aneurism generally. The prospect of cure by proximal compression or the Hunterian operation depends on the presence of a well-formed sac, which will contract vigorously on its contents when the force of the circulation is removed. If the sac is deficient or thin, and no progress is made by compression, it may be better to treat it after Mr. Syme's fashion.

Aneurisms of the branches of the external carotid in the face or scalp are almost always traumatic. Digital pressure, either on the sac itself or on the artery just above it, will almost always succeed; if not, the sac may be laid open and the two ends of the vessel tied, with a confident hope of success.

Aneurisms of the smaller arteries of the neck, such as that of the transversalis colli, are not common enough to require notice; but traumatic aneurism of the vertebral artery is an affection which is common enough to be important, and which can be usually, or at any rate very often, diagnosed, and which, if aggrivated with carotid aneurism, is treated by means which tend directly to aggravate the danger.

LECTURE III.

The occurrence of spontaneous aneurism of the vertebral artery in the neck has not as yet been noticed, but traumatic aneurisms of this artery are not so very infrequent, and there are already records of eleven cases in which the

carotid artery has been tied, in four for wound, and in seven for traumatic aneurism of the vertebral.

It is worth while to see what were the leading features of these cases, and how much an error could in future be avoided, for undoubtedly the ligation of the carotid in a case of vertebral aneurism must be fraught with double mischief; in the first place it aggravates the disease by throwing the strain of the anastomosing circulation on the vertebral; and in the second place, if the circulation in the wounded vertebral artery is interrupted before the operation of the ligation of the carotid, the stoppage of the blood supply to the brain through the carotid is rendered doubly perilous to the nutrition of that organ.

The Professor referred to a table of the cases of wounds and of traumatic aneurisms of the vertebral artery in which the carotid had been tied by mistake, and he made special reference to the one most fully reported, and which best illustrates the diagnosis. It is a case of traumatic aneurism of the vertebral artery recorded by Lücke in the eighth volume of *Langenbeck's Archives*, in which compression on the carotid diminished, but did not quite stop, the pulsation. As the symptoms persisted after the ligation of the carotid, the aneurism was injected with perchloride of iron. It burst and was laid open, and the bleeding vessel commanded by pressure. The patient died, and it was found that the vertebral artery was wounded between the atlas and occipital bone.

In commenting on this case, Lücke remarks on the error into which he was led by the fact that compression on the carotid checked the aneurismal pulsation. He explains this by supposing that compression on the carotid acted simultaneously on the vertebral, and he points out that this may easily happen if the vertebral enters the foramen of a higher vertebra than usual. Other writers have, however, observed the possibility of checking the pulsation of vertebral aneurism by pressure applied in the same way as for aneurism of the carotid, even in the normal relations of the vertebral artery. Chassaignac, writing on digital compression of the vertebral artery in the "*Des Opérations Chirurgicales*," says: "As the vertebral near its origin lies immediately behind the common carotid, between it and the spinal column, the simultaneous closure of both arteries is inevitable when the pressure is made on the carotid low down, and it is an error to think that very powerful compression is required for this purpose." He then refers to an experiment devised by M. Fraeys, of Ghent, which illustrates the fact that water injected into the aorta will cease to flow from the vertebral if light pressure be made upon the common carotid of the same side in the space extending between two and three inches above the clavicle, and he says: "If pressure is made with the same force on the common carotid above the 'carotid tubercle'—i. e., the anterior tubercle of the transverse process of the sixth cervical vertebra, the space below that tubercle being left free, the jet from the vertebral artery will continue, while that from the internal carotid wholly ceases." He proceeds to show that the tubercle in question is much higher than is generally supposed, being always from two to three inches above the upper border of the clavicle. The bearing of this fact on the diagnosis between carotid and vertebral aneurism is obvious. The surgeon must, therefore, not conclude that the aneurism affects one of the carotids or some branch of the external carotid until he has seen that pressure stops the pulsation when applied at a higher level than the carotid tubercle, or when applied to the carotid in such a way as to isolate it from the other structures, as M. Rouge did. A traumatic aneurism whose pulsations are unaffected by compression so applied must be regarded and treated as vertebral.

The ligation of the carotid for a wound of the vertebral not followed by aneurism in which the injury was assumed to be of the carotid or one of its branches, is a course still more to be regretted. There are in all regions grave objections to the ligation of a trunk vessel for the wound of a branch if any other course be open, but to tie the carotid artery for a wound of the vertebral has a direct effect in promoting bleeding from the wounded vessel, and the operation is certainly unjustifiable when any doubt exists on this point. However dangerous and difficult the operation may be which is necessary to expose the wounded artery, it is the only one admissible, and if the surgeon thinks it

undesirable to hazard its performance, he should at any rate not complicate the case further by tying the carotid.

Lücke comments at great length on the treatment which should be adopted, allowing that the diagnosis of vertebral aneurism has been established. The ligature of the vertebral artery at the root of the neck is a difficult and formidable operation, nor is there any probability that it would check the circulation through the upper portion of the vessel so near its insinuation with its fellow. He argues, therefore, conclusively against any such attempt; and still more is the attempt to tie the subclavian above the origin of the vertebral to be reprobated. But the course which he followed—viz., of repeated injections of perchloride of iron—is not at all to be recommended, for in order that this mode of cure should have any chance of success, it seems necessary that the artery should be commanded both above and below the tumor.

The only case which can be referred to of alleged cure of an aneurism of the vertebral artery is one reported by a surgeon named Möbius, in 1827. The swelling, which increased to the size of four and a half inches by three and a quarter inches, was found suddenly to have become cold, quite hard, and pulseless, after the prolonged application of ice and snow, the patient having obstinately refused to submit to any operation. The tumor, which was of traumatic origin, and caused by a stab over the lower right half of the occipital bone, finally disappeared, and the patient was alive at the time of the report of his case two years afterwards. The cure was produced, in all probability, by the mouth of the sac becoming obliterated by the accidental detachment of a portion of the clot. Bearing this case in mind, we ought to hesitate before proceeding to any extreme measures in traumatic aneurism of the vertebral artery. Professor Holmes does not see what operation can be practised on such a tumor with any hope of success, except that modification of the method of Antylus proposed by Mr. Syme. The effect of compression applied over the lower part of the carotid ought to be carefully noticed, and if this stops or greatly reduces the pulsation of the tumor there seems no reason why it should not produce a cure, if the patient can tolerate it.

The conclusions, then, to which present experience points on this subject of vertebral aneurism may be thus summed up:—

1. A traumatic aneurism may be taken to be vertebral when it is situated in the course of that vessel, and when its pulsations are not commanded by compression of the lower part of the common carotid.

2. When a traumatic aneurism is situated as above, and its pulsations are commanded, however completely, by pressure on the common carotid low in the neck, it ought not to be treated as carotid or as affecting a branch of the carotid unless it is clearly proved that its pulsations are stopped by pressure applied above the level at which the vertebral ceases to be compressible—i. e., above Chassaignac's "carotid tubercle."

3. An aneurism diagnosed as vertebral may be treated by compression (gradual or rapid, as the case demands) of the root of the vertebral artery in the neck if this is found feasible.

4. If indirect compression will not stop the pulsation, or if it cannot be borne, the tumor should be subjected to direct compression and refrigeration, to which internal remedies may be added, and possibly the subcutaneous injection of ergotine may be of use.

5. If these means fail and the tumor appears likely to burst, or if it have burst, the sac should be opened with all due precaution, and an attempt made to tie or plug the wounded artery.

6. A wound known or suspected to be of the vertebral artery should be treated either by direct pressure or by ligature of the vessel in the wound.

In order to complete the subject of aneurisms of the head and neck, it remains to speak of intracranial aneurism (by which is here meant aneurisms not within the cranium, but within the membranes of the brain) and aneurism of the intracarotid or its branches in the orbit or cavernous sinus.

With regard to intracranial aneurism, we know nothing at present of its diagnosis, so that no treatment can as yet be directed especially to it. And looking at the very free intercommunication of the four large cranial trunks, it

would seem unlikely that surgical measures directed to any one of them would do much towards the consolidation of an aneurism. Nor would the consolidation render the patient secure from cerebral symptoms. Yet the question occurs whether the trial may not be worth making, even allowing the prospect of success to be but small, if only the diagnosis could be established. Professor Holmes then referred in detail to two cases—one by Mr. Coe, of Bristol; the other by Professor R. W. Smith—and then went on to observe that, although there is some possibility that a few cases of intracranial aneurism (meaning, thereby, not “within the skullcap,” but “within the membranes of the brain”) may become subjects of surgical treatment, our information on the subject is at present very limited, and surgical treatment is almost untried.

Of orbital aneurism, on the contrary, we have ample experience, and the surgical treatment of the disease has certainly not been wanting in activity. The most various opinions have been expressed with regard to the real nature of these aneurisms, or rather of these pulsating tumors, since some of them have not proved to be aneurismal. It is well known that Mr. Travers, who was the first to treat the disease successfully, described it without hesitation as aneurism by anastomosis, and that in this opinion he was followed by all succeeding writers, until Mr. Busk took occasion to expose the numerous points of difference which exist between intra-orbital aneurisms and the undoubted instances of aneurism by anastomosis. He regarded these tumors as true aneurisms of the ophthalmic artery, in which view he was followed by Mr. Curling and Mr. Nunneley. Yet this explanation cannot universally be maintained in the face of the well-known case under Mr. Bowman's care, in which, after death, no disease whatever was found in the arterial system, although the cavernous sinus was filled with coagula extending into the neighboring sinus and the ophthalmic vein. Accordingly, Mr. Nunneley, in his second paper, states his opinion that “in several of these cases there has not existed any aneurism at all, and in the great majority where there has been aneurism it has been within the cranium, and not in the orbit.” And he explained the protrusion of the eye and the pulsation to pressure exercised on the veins of the orbit by an intracranial aneurism, the pulsation of which was transmitted to the fluid in the enlarged veins, and so to the eyeball. Mr. Erichsen goes further, and suggests that in some cases there may be no vascular disease at all, but that “some derangement of the vaso-motive influence of the sympathetic may really occasion the symptoms of increased vascular activity that are so characteristic of this singular disease.”

Cases of the spontaneous subsidence of this disease, as recorded by Erichsen, Collard, and France, were mentioned. In all of these there was complete recovery from the symptoms of the disease. Other cases of so-called orbital aneurism, in which the symptoms have been proved to depend on arterio-venous communication in the cavernous sinus, were described, especially four cases by Dr. Delens.

LECTURE IV.

Continuing the subject of orbital aneurism, and especially that of arterio-venous aneurism in the cavernous sinus, Mr. Holmes remarked that the cases he had been able to refer to proved beyond any possibility of doubt that a wound or fracture may cause rupture of the internal carotid artery within the cavernous sinus, and that this rupture may be followed by the formation of an arterio-venous aneurism, with consecutive dilatation of the ophthalmic vein; and that this affection is accompanied by all the symptoms usually attributed to orbital aneurism. It is in the highest degree probable, if not certain, that a similar rupture may take place spontaneously. Such cases as one from St. George's Hospital, described in Lecture I., show that a small crack may form in the carotid artery as the result of atheroma, and this may occur as easily in the curve of the internal carotid within the sinus as elsewhere.

The symptoms of many of the published cases certainly appear to lend probability to Dr. Delens' conjecture of their arterio-venous nature, and this explanation readily accounts for the great enlargement of the veins which is frequently present in orbital aneurism; but, on the other hand, we must admit that Dr. De-

lens' explanation appears to be refuted by indubitable evidence. Thus, in Mr. Nunneley's report of the post-mortem examination of his second case, he speaks of the tumor as a circumscribed aneurism of the root of the ophthalmic artery. Mr. Bowman's case, reported by Mr. Hulke, is another in which post-mortem examination excludes the idea of any rupture of the carotid artery. Dr. Delens suggests that in this instance, as in some others to which he refers, some minute fissure may have escaped observation; but this, Mr. Hulke asserts, was not the fact; and in another similar case, reported by M. Aubry, Dr. Delens himself is fain to admit that no lesion could possibly have existed in the internal carotid artery, since this vessel was successfully injected so as to fill the ophthalmic artery without any of the injection penetrating into the cavernous sinus.

Common aneurisms, situated on the ophthalmic artery, and on the internal carotid, both within the cavernous sinus and at its termination in the circle of Willis, have often been recorded, and Professor Holmes has himself described, and preserved in the Museum of St. George's Hospital, an aneurism of the internal carotid in the cavernous sinus, where there is certainly no communication with the venous system. The Museum of the College of Surgeons contains two specimens of a similar nature, showing the internal carotid artery on either side affected by aneurism in the sella turcica.

To sum up, then, our present knowledge of these tumors. Travers' original assumption that orbital aneurism is usually anastomotic, has been conclusively refuted. Aneurism by anastomosis sometimes affects the vessels of the orbit, but the symptoms are quite different from those of the disease now in question. It has been also proved beyond denial that some of these aneurisms are of the arterio-venous form, and it is probable that a great number of the successful cases on record were so. But it is equally impossible to deny that in others the aneurism has been of the ordinary circumscribed form. Finally, it is not clear how we can avoid admitting that in some instances the usual aneurismal symptoms have been produced by the pressure of enlarged and consolidated veins upon the arteries of the orbit. The character of the bruit is the main point in the diagnosis of the arterial from the arterio-venous form. A clear, intermittent, blowing murmur can hardly proceed from an arterio-venous communication, which has, on the contrary, a soft, continuous murmur, interrupted by the intermittent arterial whiz, and this latter is exaggerated occasionally, according to Dr. Delens, into a piping or whining sound. The difference in the bruit may suffice, then, in some well-marked cases, to exclude the idea of ordinary arterial aneurism.

But the more important question is, whether it is possible to recognize those cases in which no arterial disease whatever exists, and this is much more difficult. There are, at least, two carefully recorded cases in which all the symptoms of orbital aneurism were present—viz., Bowman's case, recorded by Hulke, and Aubry's case; and on reading over these one does not find one symptom absent which is usually taken as decisive of the pressure of aneurism. In both there were pulsation and bruit, exophthalmos, and the dilatation of the venous system of the orbit. Another case, in which the post-mortem evidence of arterial lesion was at any rate very unsatisfactory, was under Mr. Berkeley Hill's care. Neither Dr. Ringer nor Mr. Hill could satisfy themselves of the existence of any aneurism.

Mere coagulation of blood in the cavernous sinus, without dilatation of the veins of the orbit, will not cause the symptoms of orbital aneurism, as Knapp's cases of thrombosis of the cavernous sinus show; nor will mere dilatation of the orbit unaccompanied by coagula in the sinuses. It is possible that we may, hereafter, learn the diagnosis of these affections, and the more so since the attention of surgeons has been forcibly called to the subject, not only in this country, but in America, by Dr. Morton, and in France by M.M. Demarquay and Delens; but at present all that we can say is, that the symptoms of orbital aneurism are, in some cases, exactly imitated by cases in which only the venous system is affected. But this fact, though only a negative one, forms obviously a very powerful motive for caution in undertaking operative treatment.

Another, and a very curious feature in these pulsating tumors of the orbit,

is the occasional transference of the symptoms from one side to the other. Velpeau has made the following remarks in connection with this subject: "We have had two patients affected with erectile tumors of the orbit. One of these persons had a tumor in both orbits. He ascribed the origin of these tumors to a blow on the nape of the neck. I hardly see what connection there could have been between the blow and the existence of the tumors. However this may be, the curious point about this patient was that the compression of the right carotid caused the immediate cessation of the pulsation in the tumor of the left orbit, and that of the left carotid stopped the pulsation in the right orbit. This phenomenon appears inexplicable to me. I tied the right carotid—the left tumor subsided; that on the right side diminished a little, but soon appeared as large as before the ligature, and presented the same characters. I proposed to the patient the ligature of the left carotid, but he would not consent, and left the hospital, having obtained no other benefit than what resulted from the ligature of the right carotid. I saw the patient again a short time ago. The erectile tumor on the left side was perfectly cured, but continued to grow on the right. The thing is hardly explicable, for the carotid has no anastomoses which could account for such a phenomenon."

Mr. Busk and Mr. Curling long ago solved Velpeau's first difficulty—viz., how to account for aneurism, which he called "erectile tumor," in the orbit following on a blow on the head or nape—by referring it to a fracture of the base of the skull, traversing the ophthalmic or internal carotid artery; and a case of M. Nélaton's is an interesting anatomical proof of the correctness of their opinion; so that at the present day we are not much surprised to find the disease so often commences after injury. But the transference of the disease from one side to the other—the fact that the pulsation in one orbit is controlled by pressure on the other carotid—is far less easily accounted for. Dr. Delens has invented an ingenious hypothesis to explain this curious fact. He supposes that the right internal carotid was divided inside the cavernous sinus so as to be severed into two parts; that the sinns became obstructed by coagula, separating its posterior from its anterior portions; that the blood-stream from the right internal carotid, thus barred from finding a passage into the right orbit, made its way through the anastomosing sinuses (circular and transverse), into the left cavernous sinus, producing the usual symptoms of arterio-venous communication there, while the anastomoses between the left and right arteries brought back the blood into the anterior part of the right cavernous sinus, and thus occasioned the symptoms of arterio-venous aneurism in the right orbit. This idea is certainly in harmony with many of the facts of the case; it explains why the disease was less marked on the left side than on the right, since the anastomoses of the sinuses are less direct and less dilatable than those of the arteries; why the symptoms in the left orbit were under the direct control of the circulation in the right artery and *vice versa*. But to Professor Holmes this hypothesis is a little too elaborate, and he is not sure that all the symptoms may not depend on the mere fact of the clot having extended from the sinus of one side to that of the other through the circular and transverse sinuses.

There are other cases besides Velpeau's, in which the crossing of the symptoms has been noticed. Such cases harmonize with the general conclusion to be drawn from published records of the more ordinary cases of orbital aneurism, so far as to show that many of the phenomena of the so-called "aneurism" must be due, not to any arterial disease, but to some lesion or some unnatural condition of the venous channel of the cavernous sinus, which unnatural condition has in the instances last quoted extended to the opposite side from that on which it originated.

This examination of the pathology and of the various theories which have been adopted as to the nature of this remarkable disease is a necessary prelude to the consideration of its surgical treatment. If we admit that the symptoms may be caused by coagula in the sinus pressing upon the artery without any disease of the latter, surely we ought to do all in our power to avoid so serious an operation as the ligature of the common carotid. If we admit, with Mr.

Erichsen, that the disease may probably enough disappear spontaneously, the same conclusion is irresistible.

If we agree in Dr. Delens' teaching, that a very large proportion of these cases are arterio-venous, we know that the ligature of the vascular trunk at a distance from the opening in the artery is a very uncertain remedy in arterio-venous aneurisms. We know also from the experience of arterio-venous communications in the neck and elsewhere that this injury does not necessarily involve any fatal symptoms. After attaining a certain extent many such cases have remained stationary for an indefinite period. If even we could adopt the old idea, that the tumor was due to a cirroid dilatation of the arteries of the orbit, we know how nugatory the ligature of the trunk vessel usually proves in that disease.

Finally, if we adopt the opinion of Mr. Busk, Mr. Curling, and Mr. Nunneley—which is the prevalent opinion at present—that these tumors are of the nature of true aneurisms of the ophthalmic or internal carotid, we should reasonably expect success by milder methods than the ligature in a tumor so small as this must be, and in a disease the symptoms of which are confessedly due more to dilatation of the veins than to arterial lesion. The records of practice speak plainly to the same effect.

It is quite true that by statistics the operation of tying the carotid for orbital aneurism is made to appear a very successful operation, but this method of viewing the subject can hardly be employed either for or against the treatment until we know the natural progress of the disease, and the results of other kinds of treatment. As to the natural progress of the disease, though certain cases prove that there is no occasion for hurry, and that a natural cure is not impossible, the same cannot be affirmed generally. If the exophthalmos is rapidly increasing, the loss of motion of the eyeball advancing so as to threaten disintegration of the nerves traversing the cavernous sinus, and the loss of sight testifying to pressure on or stretching of the optic nerve, no good surgeon would probably refrain from active treatment. But then compression of the artery, either digital or instrumental, undoubtedly deserves trial before a patient is exposed to the danger to life which the ligature of the carotid involves. Cases of successful compression of the carotid in this affection have been recorded by Gioppi and Scaramazza, and of direct compression by C. Freeman.

Another method which has been practised twice in three cases, and twice at least with success, and which deserves renewed trial, is the injection of coagulating fluid into the tumor. These cases afford much encouragement for the repetition of the practice in appropriate cases—i. e., cases in which the venous tumor is large, fully developed and growing, and where the compression of the carotid has failed after a full trial. The other local measure which has been tried is electro-puncture; of this only two instances are on record, in one of which it failed, and in the other it proved fatal.

The recorded experience of milder modes of treatment justifies the conclusion that the ligature of the carotid should never be used in so-called orbital aneurisms until after a patient trial of the less dangerous measures. But when these have failed, and the disease is advancing, we are justified in employing ligature, and that, too, although on the one hand the disease has not been observed to run on to a fatal termination, while several patients have recovered spontaneously, and on the other, the ligature of the carotid has by no means universally exercised a curative effect.

Some surgeons, as Demarquay, prefer the ligature of the internal to that of the common carotid, but there seems no good reason for this preference, nor is there any objection to tying the external along with the common carotid.

In connection with carotid aneurism, and especially in connection with orbital aneurism, it is worth while to mention cases of arterio-venous communication in the neck between the carotid arteries and the veins lying in contiguity with them or in their neighborhood. We shall find—a fact which is not very easy of explanation—that the existence of a traumatic arterio-venous aneurism in the neck is very often harmless, and, as far as published cases enable us to judge, does not usually prove fatal if left alone.

As regards the surgical treatment, it is useless and improper to interfere in

those cases of arterio-venous aneurisms in the neck where there are no dangerous symptoms; but in others the gradual advance of the symptoms points strongly to the necessity for some interference, if possible, before it is too late to save the patient's intellect or life. In these instances, if the foreign body which caused the wound is lodged, an incision must be made down upon the tumor, the circulation being controlled below, and if possible, above also, the tumor opened, the foreign body removed, and the artery and vein tied. Where there is no evident lodgment of the foreign body it is possible that the combination of direct with indirect pressure might be successfully employed which Vanzetti has introduced in the treatment of varicose aneurism of the brachial artery. If the venous thrill and murmur could be suppressed by direct pressure on the tumor, it would be a proof that the venous orifice was controlled, and in that case simultaneous compression of the lower part of the artery might be trusted to complete the cure.

LECTURE V.

Aneurism in the axilla is not perhaps quite so rare as in the neck—a result probably of the comparative frequency of wounds and injuries of this region. But the connection of the artery with the capsule of the shoulder-joint is by no means so direct as is that of the popliteal with the capsule of the knee. Consequently the sprains and injuries so common in the neighborhood of the shoulder less often affect the axillary than those of the knee do the popliteal artery. In speaking of axillary aneurism, Professor Holmes adopted the same plan of treatment as with carotid aneurism—i. e., he first referred to the preparations in the museum of the College, and then showed some diagrams of those forms of this aneurism which he considered characteristic, and which illustrated his view of its surgical treatment. Thus a preparation (No. 1694) was produced as a typical example of the normal relations of the disease, showing the close connection of the sac with the nerves of the plexus, and the great branches which leave the artery close to the sac. This preparation showed likewise the curability of the disease even under unfavorable conditions; extensive disease of the heart existed, yet the aneurism is compactly filled with laminated coagula. The second preparation produced (No. 1695) showed the enormous size to which this aneurism grows. The whole axilla was filled, and there was a large sausage-shaped pouch running down the arm, and due no doubt to a partial rupture at some previous period. In this case the artery was originally tied with two ligatures by Mr. Liston, and the case is reported and figured in the *Edinburgh Medical and Surgical Journal* for 1827. Three other preparations exist in the museum (No. 1696 and No. 1694 A and B); these illustrate the tendency of axillary aneurisms to occur, as popliteal aneurism pretty often does, on both sides of the body. Such preparations as these, which constitute the whole series of axillary aneurisms contained in the museum of the College, are characteristic and valuable, because they demonstrate most of the debatable points in the surgical treatment of this disease.

President Holmes commenced the discussion of the surgical treatment of these aneurisms by exhibiting four diagrams which illustrate forms of this disease curable by different surgical proceedings. In such a case as Liston's (No. 1695), already referred to—where the enormous tumor extends into the subscapular fossa, the sac has given way at one point, and the walls of the great sac are incorporated with the muscles of the axilla, having the axillary plexus of nerves and the axillary vein lost in its substance—there is practically no hope of saving life by the Hunterian method. Cure by compression is out of the question. The operation recommended by Mr. Syme could not have been performed, for though the upper end of the artery might by possibility have been tied, the lower end of the vessel seems to have been separated by an interval of many inches instead of being close to the upper, as Mr. Syme leads us to expect, and could not have been found. The size and shape of the sac, too, would have rendered its obliteration by a process of suppuration fatal to the patient. There would besides have been the risk of bleeding from arteries opening into the tumor.

For such cases as these no remedy remains except amputation at the shoulder joint. After the subclavian artery had been secured, the limb might have been amputated, and the remains of the sac could then have been easily cleared out of the subscapular fossa—a desperate operation, it is true, but one from which recovery would not have been hopeless. The tied end of the vessel would have been far less likely to be the seat of secondary hemorrhage after the removal of all the parts below it than when tied in its continuity. In such cases as this then, no minor operation holds out any hope of benefit. If the surgeon is prepared to adopt the extreme and most hazardous measure of removing the limb, he should allow his patient to die a natural death. On the other hand the cases most probably amenable to the ligature of the subclavian are those one produced from Guy's Hospital, in which the tumor is of large size, and the artery has a free entrance and exit at either end of the sausage-shaped sac; a great branch arises from the artery just as it enters, and two others just as it leaves the sac, and the brachial plexus of nerves envelops the tumor on all sides. Compression would probably have failed, not so much on account of the size of the tumor as on account of the free anastomoses by which the circulation would have been constantly carried on. The relations of the sac would have made an attempt to lay it open, as Mr. Syme proposed, exceedingly hazardous, and in all probability fatal from lesion of the nerves, from the necessary ligature of the collaterals, and from the too probable injury to the vein. But there seems a very fair prospect that the arrest of the main stream of blood by ligature of the subclavian might have been sufficient to effect a cure. In many such recorded cases, though the aneurism has retained some pulsation for a time—in consequence, no doubt, of the large branches opening into it—yet coagulation has gradually advanced and has finally been completed. Another of Mr. Liston's preparations, preserved in the museum of University College, affords an illustration of the kind of case in which it is not impossible that an enterprising surgeon might carry out the operation described by Mr. Syme, although not without much risk of injury from the proximity and the uncertain position of the vein and nerves. It is a specimen in which there is that relation between the vessel and the sac which Mr. Syme described as universal, but which Mr. Holmes has shown to be exceptional. The last illustration is a diagrammatical representation following closely on the model of Mr. Gay's preparation (No. 1694 A); it is intended to show the usual conditions or relations of an elongated or fusiform aneurism in the axilla, and if compared with a preparation of axillary aneurism seven years after it was cured by compression, it will be found to correspond in all essential particulars with the state of things there shown. The conditions here represented render it desirable to avoid, if it be possible, the ligature of the subclavian artery; but because the situation of the ligature must always be dangerously near the aneurism, and the possibility of curing these moderate-sized aneurisms in the axilla by compression can be amply proved by cases.

Hitherto—in this country at least—the treatment of axillary aneurisms has been almost uniform, nearly every case having been treated by the ligature of the third part of the subclavian artery. We have had very little experience of the compression, or indeed of any other of the substitutes for the Hunterian ligature.

Mr. Erichsen, in writing only last year, thus sums up, and Professor Hahnemann thinks very fairly, the views of surgeons on this subject: "Digital compression might be advantageously used, but compression by instruments on the cardiac side can seldom be made applicable to aneurisms in this situation, inasmuch as the pressure that is brought to bear upon the subclavian must necessarily at the same time influence the greater part of the brachial plexus of nerves to such an extent as to be unendurable to the patient. Yet it is not impracticable and means might be devised to overcome this difficulty. Ligature of the artery is still the surgeon's chief resource in the treatment of these cases."

Daily experience, however, proves how very dangerous a resource ligature of the subclavian is in axillary aneurism. The earlier statistical tables of Nelton and Porter show that nearly half of the cases in which the subclavian artery has been tied in its third portion for aneurism have died, and the more recent

researches of Koch go to prove the same. Out of ninety-four cases where this artery has been tied for aneurism in the axilla not extending above the first rib, and, therefore, permitting the ligature of the subclavian in its third part, fifty-one have recovered and forty-three have died. Thus, almost as many cases of axillary aneurism which have been operated on by ligature of the subclavian have died from the operation as have survived; and there can be but little doubt that a good many of those who have survived the operation have not survived very long.

The dangers of the operation on the subclavian artery for axillary aneurism increase, as those of ligature of the common carotid for carotid aneurisms do, the nearer the ligature has to be laid to the aneurismal sac; and several of the preparations on the table prove that in these cases the ligature is often in contact with the aneurism. Besides the risk of inflammation and suppuration under these circumstances, there is (as proved by a case of Sir W. Fergusson's) another danger; for the sac, even though not wounded in the operation, may give way from the loss of support due to the proximity of the wound to its tissue.

The Professor produced several preparations from different museums which showed how frequently the operation proves fatal from other causes (pyæmia, plugging of great veins from inflammation going on around them, hemorrhage from diseased arteries, etc.), even when all is going on well with the aneurismal sac and its contents; and, lastly, he drew attention to the fact that hidden dangers beset the path of the operator, even in cases which present no apparent risk beyond the common. Thus, in one of the preparations from the Irish College of Surgeons there was seen a diverticulum from the aneurismal sac, the existence of which was not suspected during life, but which (as Professor Porter says in his account of the case) must necessarily have been wounded had any attempt been made to tie the artery as it passes over the first rib. Thus, by statistics, histories of cases, and preparations, the dangers of ligature of the subclavian are sufficiently illustrated. Still these dangers are no argument against the employment of the ligature if no safer means of treatment exist. But as there are cases of the most unpromising character which have been successfully treated without resort to so dangerous an operation, we must inquire under what conditions it is possible to treat axillary aneurisms without operation; and when, on the contrary, we should feel justified in exposing a patient to all the dangers of the Hunterian or Anel's ligature; and further, in what cases it may be justifiable to cut into the axilla and seek for the two ends of the artery, or to remove the limb altogether. Allusion must also be made to modes of treatment which are applied directly to the tumor itself—viz., manipulation, galvano-puncture, and coagulating injection.

Notwithstanding the admitted fatality of Hunter's or Anel's operation on the subclavian, English surgeons have not as yet made any very serious attempts to treat aneurisms of this kind by milder methods. Fischer, in an elaborate paper, has collected all the published cases which he could find, in which digital compression had been used with or without success in the treatment of various forms of aneurism.

The number of cases of axillary aneurism he alludes to which have been so treated are only two, and the compression was in both cases unsuccessful.

Compression of the subclavian artery in axillary aneurism is as old as the time of Desault, whose attempt is related in Broca's work. The patient did not give the treatment a fair chance: being frightened, he left the hospital and placed himself under Ferraud, at the Hôtel-Dieu, who, mistaking the aneurism for an abscess, opened it, and the patient died at once of hemorrhage. Another unsuccessful trial of pressure in this form of aneurism is also referred to by Broca, who, however, gives it as his opinion that axillary aneurism is not suitable for compression at all.

It may be doubted whether digital pressure is so applicable in this form of aneurism as instrumental, or that combination of the two which consists in the application of manual pressure by means of some pad such as that designed by Mr. Coles; for the artery lies at so great a depth that the fingers soon get

weary, and the pressure is liable to become unsteady, being both uncertain in its direction and also varying in its force—i. e., both insufficient and painful.

Out of ten cases of axillary aneurism—contained in the table alluded to in the first lecture, of 337 cases surgically treated in our British hospitals—three of them were submitted to compression: in one with perfect success. In a second case the patient was at the extreme age of seventy-eight years, and died during his stay in hospital apparently from natural decay; only direct pressure by pad and bandage was used. In the third case pressure was tried, but could not be borne by the patient; then an attempt was made to tie the subclavian, but by mistake the posterior scapular artery, which was unusually large and came off from the third part of the subclavian, was taken up instead. The patient died two days afterwards. The first of these cases is of much interest, as being the only one in which the cure of axillary aneurism by compression has been effected in one of our large metropolitan hospitals. It occurred last year at Guy's Hospital, under Mr. Cooper Forster's care, and is published in the Guy's Hospital Reports for 1873.

A case which was recently under the care of Professor Rizzoli, of Bologna, proves that an axillary aneurism—even of the most formidable kind—accompanied with degeneration of the subclavian artery to such a degree as must have precluded the prospect of successful ligature of that vessel—may nevertheless be cured by pressure. Rizzoli terminates his account of this case by saying—"I hope the cure of this case by compression may help to moderate the impatience of those surgeons who, discouraged by the first unsuccessful trials of compression, with reprehensible haste resort too quickly to the ligature of great arteries, exposing their patients thereby to the grave dangers which frequently follow on such operations, however skilfully performed, and even after the most approved method of operating." Rizzoli also refers to two other cases—one related by Ciniselli, to which brief reference is made in the New Sydenham Society's Biennial Retrospect for 1867 and 1868, and of which a full account is to be found in "*Bulletins delle Scienze Mediche di Bologna*;" and the other is a case of Dutoit's.

These cases are of great value, as showing that there are instances of every kind of axillary aneurism which are amenable to the cure by compression. Rizzoli's case was depending upon spontaneous disease of the artery; Ciniselli's, a distinctly traumatic aneurism, the artery being almost certainly healthy; Dutoit's, of that mixed or uncertain kind occurring after an accident, but in which it is always a matter of doubt whether the artery will not be found more or less diseased; Cooper Forster's was somewhat of the same nature—i. e., one in which the cause of the disease is uncertain, but its rapid increase renders it most probable that the artery is extensively diseased.

These cases prove further that the cure may be effected either by digital or instrumental pressure. They show the feasibility in many cases of digital pressure, and also that it may be borne for a considerable period without producing unbearable pain or any loss of function from injury to nerves.

The facility with which the subclavian artery can be compressed, and the ease with which it can be separated from the nerves of the brachial plexus, so as to be compressed without much pain, vary very much in different persons. In some, where the artery rises high in the neck, there is no difficulty in stopping the pulse with moderate pressure of a single finger, and the patient will not complain of much inconvenience when this is done. In others the pressure has to be directed almost under the clavicle; too great force is required to be efficiently maintained for any length of time, and this gives so much pain as to induce the patient speedily to beg for its cessation.

Then arises the question, If pressure on the subclavian be too painful to be endured without an anæsthetic, cannot it be successfully employed under anæsthesia? Professor Holmes can see no objection to the use of total compression under chloroform in the case of the subclavian artery, except the difficulty of making a proper instrument. It is true there may be some risk of contusing the nerves of the brachial plexus by prolonged pressure; but this risk is so trifling in a disease so dangerous as axillary aneurism, and is so very small in comparison with the dangers of the ligature, that it seems quite justifiable to

make the attempt. It must be left to future experience to decide in how large a proportion of cases success may be hoped for, and whether the attempt is worth persevering in. But the complete success obtained in Mr. C. Forster's case is a most powerful encouragement to renew it.

LECTURE VI.

Continuing the subject of the treatment of axillary aneurism, Professor Holmes remarked, that although he had dwelt on the possibility of the cure of this disease by compression, and had urged its trial in the place of the ligature of the subclavian, he would not have it supposed that the treatment is one to be lightly undertaken or easy to carry out. Experience has proved that there are cases in which intermitting or rapid pressure may be successfully employed, but can we distinguish such cases? or ought the surgeon always to commence treatment by a trial of pressure? The latter would be an improvement on the indiscriminate resort to the ligature, but Mr. Holmes is not certain that indications may not be found for selecting those cases in which pressure gives most promise of success, or in which it is most desirable to reject that treatment. In the first place, there are some cases usually classed as axillary aneurism, but which may be more accurately described as rupture of the axillary artery, on which, as far as present experience goes, pressure has but little chance of succeeding. In these the essential feature of aneurism—viz., a sac capable of contracting on the coagulating blood—is wanting, and without the assistance of this contraction not even the ligature of the artery above can be trusted to succeed, still less the certainly feeble influence of indirect compression. The Professor thinks that in cases where there is good reason to believe that an artery has been ruptured and no complete sac has formed, the old operation, if practicable, should always be preferred; and he referred to a very interesting paper by Dr. Liddell in the *American Journal*, January, 1864, in which the author describes a case of traumatic aneurism from gunshot, and concludes (without having at that time seen Mr. Syme's writings) that in many such cases the old operation is to be preferred.

Again, there are cases of axillary aneurism in which the tumor—or as Professor Spence thinks, the action of the nerves irritated by the tumor—has raised the clavicle so much that compression of the subclavian is rendered doubly difficult. In such instances the ligature of that artery is also an operation of much difficulty and danger, and the surgeon, before attempting it, should maturely weigh the other plans which have been proposed for the treatment of such aneurisms—viz., electro-puncture, coagulating injection, manipulation, and the old operation as practised by Mr. Syme. They may be taken, perhaps, in that order. Electro-puncture is, Professor Holmes thinks, on the whole, the least dangerous. The injection of perchloride of iron will usually be prohibited by the impossibility under these circumstances of suspending the circulation, though, if the elevation of the clavicle is not extreme, it may be possible to compress the artery for the short time requisite for this purpose, and it then holds out a more definite prospect of cure than galvano-puncture. Manipulation can only be expected to succeed when the sac is of rather small size and contains some clot already. But then a tumor of this kind can only under exceptional circumstances so elevate the clavicle as to preclude the more ordinary methods of treatment.

The use of electricity in the treatment of aneurism has up to the present time been reserved almost exclusively for the treatment of internal aneurisms; and very properly—since, whatever may be the future prospects of electrolysis, we do not as yet know enough of its effects on the blood of an aneurism to enable us to predict what will be its results in any given case with any approach to certainty, and for external aneurisms we possess means far more uniform in their action, and far more successful.

That manipulation might be successfully practised in axillary aneurism Professor Holmes does not doubt, though it seems to him that the effects of this method of treatment are too uncertain to render it likely ever to come much into use in a form of aneurism like the axillary, where the artery leading to the tumor is usually fairly accessible. Yet, if pressure has been tried in a case

and failed, if the condition of the patient or of the artery renders the surgeon unwilling to risk the operation of ligature, and if there is evidence of the presence of a good deal of clot in the sac, in such a case there would be a fair opportunity for attempting to dislodge a portion of this clot and push it into the distal opening of the sac.

The surgeon's object in manipulation is to produce designedly the same effect as occurred accidentally in two cases referred to by the lecturer—viz., one by Beck, of spontaneous cure of axillary aneurism by the impaction of clot; and the other a similar case related by Poland, in which spontaneous cure by impaction occurred under the use of a compressing bandage. But much more experience of the manipulation-treatment is necessary before we can say what the chance of success may be.

Finally, there is the bold proposal of Mr. Syme of reviving the old operation. If the tumor extends so high that pressure cannot be used, and whilst its size prevents the use of manipulation and galvanism, or coagulating injections are either contraindicated or have been tried in vain, the choice of the surgeon must be between the ligature of the subclavian and the old operation. The former is very fatal under these circumstances; the latter is as yet untried, except in cases of ruptured artery, such as those operated on by Paget, Syme, Callender, and others. The form of the sac and its exact relations to the vein and nerves become now matters of the most vital importance. Besides the great dangers which beset the old operation in every part of the body—viz., disease of the arterial coats where the ligature is applied, and of discovering the lower end of the vessel—there are two dangers special to the operation in this particular situation, one resulting from the close connection between the brachial plexus and the sac, and the other from the very large relative size of the branches of the axillary artery. The many risks of this operation should therefore lead to its use being restricted to some exceptional cases such as have been specified; and any surgeon who chooses to resort to it must have made up his mind to an operation involving difficulties which he has no means of foreseeing. He cannot tell where the opening of the artery will be found, nor what part may be in contact with the tumor he is going to lay open, nor what branches he may have to tie besides the trunk. He must make all necessary preparations for amputation in case it should prove necessary; and a preliminary incision above the clavicle, through which the subclavian can be immediately secured in this latter event, is a precaution which should never be neglected.

The facts brought forward in reference to axillary aneurism, Professor Holmes thinks, are sufficient to establish the following propositions:—

1. That there are a great number of these aneurisms, both traumatic and spontaneous, which are amenable to gradual intermitting pressure, when carefully applied to the artery above the tumor.

2. That in cases where this is not possible, from the pain which the patient experiences on pressure, the application of rapid total compression under anæsthesia may effect a cure.

3. That the ligature of the subclavian artery is so dangerous an operation, both from its own risks and from the proximity of the sac, that it ought to be restricted to cases where pressure has failed, and to those in which, from the size and rapid growth of the axillary tumor, the surgeon thinks pressure unadvisable.

4. That the old operation is to be preferred to the ligature of the subclavian in cases of ruptured artery, and that it may be practised in cases where, from the elevation of the shoulder, or from the extent of the tumor, the surgeon would find it difficult to tie the subclavian, or fears in doing so to injure the sac; but that the anatomical relations of axillary aneurism render this a peculiarly hazardous proceeding, and the surgeon should always be prepared to amputate if necessary.

5. That in very large axillary aneurisms, if any treatment be adopted, the arm should be amputated at the joint after ligature of the subclavian.

Aneurisms occurring below the axilla may be divided into arterial aneurisms of the brachial artery, arterio-venous aneurisms at the bend of the elbow, and aneurisms of the arteries of the forearm and hand.

Arterial aneurisms of the brachial artery are almost always the result of wounds. Yet cases of spontaneous aneurism of this artery are on record. Mr. Birkett gives one such case in the *Guy's Hospital Reports* for 1862. Another and a very interesting case, recorded by Kade, was referred to by the lecturer; and references are given by Fischer to three other cases of spontaneous brachial aneurism; and if the three cases by Pelletan, Liston, and Spanton, another reported in the *Gazette des Hôpitaux*, 1860, p. 770, and a second case by Mr. Birkett since the publication of his first case, are added to these, we have all the cases of spontaneous aneurism of the brachial artery of which the Professor had been able to obtain any knowledge. Spontaneous aneurism of the brachial artery is therefore a very rare disease, and when it occurs it is generally significant of disease of the heart, and is the effect probably of the lodgment of an embolic clot in a weakened artery. Much care should be bestowed on the examination of such a case, and its treatment should obviously not be too active. If cardiac disease or extensive arterial degeneration exists, the patient's life cannot be prolonged, and he is a very bad subject for the ligature; nor is the disease usually in itself so formidable as to justify the risk. So that persevering attempts at pressure should be made (digital by preference), and the artery is so accessible that they will in all probability succeed.

Traumatic brachial aneurism is still more under the influence of compression. Fischer's table contains references to fifteen cases which seem to have been merely arterial—i. e., in which there is no mention of any injury to a vein. Digital compression was successfully used in twelve of these cases; in a thirteenth direct pressure effected a cure; in the fourteenth case the brachial artery was tied, but the patient died from erysipelas; in the remaining case digital pressure failed, but no further treatment is recorded. In these aneurisms, if compression fails, it may be a question whether the old operation is not better than the Hunterian ligature, for the sac is often imperfect, and coagulation consequently either very slow or altogether deficient.

The arterio-venous aneurisms at the bend of the elbow, the result of unskilful bleeding, are now very rare in this country.

The treatment, when any was adopted, before the introduction of digital pressure, consisted usually in the incision of the sac and the ligature of the arterial orifices. Instrumental pressure did occasionally succeed, but not very often, on account of the venous congestion which it caused, and the Hunterian ligature was justly discredited. Such cases as that of Sir C. Bell, of which the preparation was produced, where he tied the artery above the tumor, and the patient died of gangrene, show both the inefficacy and the dangers of tying the artery at a distance from the sac, while the old operation is not very dangerous, and is indubitably curative.

Digital pressure, however, even applied only to the artery above, has frequently effected a cure. Fischer's tables give twelve cases, nine of which were successfully treated by digital compression. In some of these nine cases the pressure was applied to the artery only, but in at least four of them digital compression was applied both directly to the venous orifice of the aneurism and indirectly to the artery leading to it.

The lecturer here referred to a diagram representing the method employed by Vanzetti. The artery and vein are seen communicating on either side with a sac, and Vanzetti had noticed that slight pressure on the apex of the sac stopped the continuous venous murmur. A finger is represented in the diagram at this point obstructing the entrance of the venous current into the sac, thus placing the tumor for the time under the same conditions as a common aneurism. Pressure is then made by another finger on some convenient part of the artery above.

Knowing as we now do the efficacy of direct pressure thus applied in conjunction with indirect compression of the artery for the cure of varicose aneurism, it may be worth while to treat cases of aneurismal varix by the prolonged application of that slight amount of pressure which would probably suffice in many of them to close the venous orifice. Allowing that in many of these cases the symptoms are not urgent, still the disease is worth curing if it can be done without danger.

Lastly, we have aneurisms below the bend of the elbow. These are usually traumatic, and therefore, as a rule, affect the most superficial parts of the vessels and those most exposed to injury, the radial and ulnar near the wrist of the palmar arch. But spontaneous aneurism of the arteries of the forearm is by no means so rare as used to be thought. It usually depends either on diseased heart or is a symptom of extensive disease of the arteries. In either case the patient's general condition is of far more importance than the local mischief. On the subject of spontaneous aneurisms occurring below the axilla an interesting paper will be found in the *Medical Times and Gazette* for 1865, vol. i. p. 567, by Mr. D. Spanton. He discovered records of four cases of spontaneous aneurism of the arteries of the forearm, and, upon inquiries at forty-one of the principal metropolitan and provincial hospitals, he was able to learn of only three other cases. Out of eleven cases of aneurism of the forearm disease of the heart was proved to exist in five, and was suspected in a sixth. Compression was tried in three of these eleven cases, but with no benefit. Apart from the concomitant disease of the heart or great vessels, these aneurisms are easily curable. Even in the presence of such disease they are very frequently treated with success. Traumatic aneurisms, as well as spontaneous aneurisms, of the forearm and hand are also very often curable by compression, although this treatment also often fails. This depends mainly on the formation of the sac. If the sac is completely formed of stout resilient tissues, compression is likely to succeed. If, on the other hand, there is a weak, flaccid tumor which collapses a little but does not disappear when the pulsation is stopped, leaving an ill-defined bag of fluid blood, the probability is that pressure will fail. If the patient were nervous and irritable, likely to be depressed by failure, and sensitive to the pains of pressure, it would be better to perform the radical operation at once. There is this advantage in the application of pressure to aneurism of the upper extremity which the method does not possess in its application to the lower limb—viz., that it does not necessitate confinement to bed, but the patient can all the while enjoy the benefit of fresh air and exercise. The list of 337 cases of aneurism tabulated by Professor Holmes contains thirteen below the bend of the elbow; seven of these are said to have been traumatic, and an eighth (an aneurism of the palmar arch) probably was so; it was cured by direct pressure.

Indirect pressure was tried in three of the seven cases, and in two with success. In the case where pressure failed, and in three others, the clots were turned out of the tumor and both ends of the artery tied, and in all instances with success. In the remaining case—one of ulnar traumatic aneurism—it is merely noted that the ulnar artery was successfully tied. There was a ninth case, in which an aneurism of the palmar arch had been cut into before the patient's admission into hospital, and where the hemorrhage proved fatal.

There remain four cases of spontaneous aneurism, one of the radial, and three of the ulnar artery. Digital compression was used successfully in one case; the brachial was tied successfully in two; and in the remaining case compression of the brachial failed, but, as the man was near his death from aneurism of the aorta, nothing further was done, and he died a month afterwards.

In Fischer's tables are references to thirteen cases in which digital compression has been employed, none of them being comprised in Prof. Holmes's list. One of these was a spontaneous aneurism of the ulnar in a patient with diseased heart, and one a spontaneous aneurism of the radial, with no note as to any concomitant disease. In the former compression failed, and nothing further was done; in the latter it succeeded. Of six cases of traumatic aneurism of the radial and five of the palmar arch all but two were cured by compression. In one of these two cases the injection of perchloride of iron, and in the other the ligature effected a cure.

It will be seen from this account, that in the traumatic aneurism of the arteries of the forearm there is good prospect of cure by digital pressure. When this has failed, Professor Holmes would always be in favor of the ligature of both ends of the vessel, not being aware of any case in which it has failed. They have, it is true, been treated with success in various other ways—by the injection of perchloride of iron, by the action of chloride of zinc, and

by galvano puncture. It is even possible that cures may have been effected by the Hunterian operation. But all these methods are, to say the least, quite as dangerous as the simple incision of the sac, and far more uncertain; so that there seems no reason for submitting the patient to any such experimental surgery. In those cases of spontaneous aneurisms in which, after the failure of compression, the surgeon wishes to proceed further, the brachial artery, the Professor considers, should be tied. But it must be remembered that many of these tumors seem to be of embolic origin, and it is the opinion of many good pathologists that such aneurisms are slow to rupture. It is only, then, in case of rapid growth of the aneurism, or some exceptional condition, such as pain from the neighborhood of a nerve, that any such operation should be contemplated.

ART. 122.—*A Mode of Using a Three-pad Tourniquet in the Treatment of Aneurism.*

By E. LUND, F.R.C.S., Manchester.

(*British Medical Journal*, August 30.)

The tourniquet employed was that known as Signoroni's, with a pad from the centre of the arch, so attached that it could be moved to and fro by a screw-action. The instrument was applied in the usual way over the artery, and such pressure made as would not arrest entirely the force of the pulsations. The extra pad was then brought into action, so as to press against the external side of the limb, and drag the tourniquet transversely across it. This had the effect of so displacing the vessel and the tissues surrounding it, that the artery was made to assume a curvilinear in place of a straight direction; and by this means the circulation could be completely stopped with less actual compression of the skin and other structures.

ART. 123.—*On Tertiary Syphilis and Syphilitic Cachexia.*¹

By S. A. LANE, F.R.C.S., Consulting Surgeon to St. Mary's Hospital, and to the London Lock Hospital.

(*The Lancet*, July 26.)

Mr. Lane commenced his lecture by stating that both in consultation with other surgeons, and at the College examinations, he was much struck with the unsettled state of opinion on the diagnosis and treatment of tertiary syphilis. The principal difficulty seemed to be in deciding whether any particular case under notice should be classed with the secondary or tertiary group of symptoms, and, again, whether iodine or mercury should be the remedy to be relied upon. Some, he found, considered it immaterial which of these remedies were administered, while others would prescribe them in combination, or in alternation with each other. He considered it so essential that clear and distinct notions should be held upon these points, that he had placed before them two tables in which the tertiary and secondary affections were respectively grouped, and their appropriate remedies mentioned. Each group was also illustrated by numerous drawings taken from patients in the Lock Hospital.

Morbid changes observed in secondary syphilis.

Affections of skin.	{	Erythematous—Roseola.
		Papular—Lichen.
		Tubercular—Tubercles that may desquamate, ulcerate, or encrust.
		Scaly—Psoriasis, lepra.
		Pustular—Ecthyma.

¹ Delivered at St. Mary's Hospital, July 23d, 1873.

Affections of mucous and semi-mucous membranes.	Superficial white aphthous-looking ulcers on the tonsils, soft palate, and fauces—Superficial ulcers on the sides of the tongue and angles of the mouth—Mucous tubercle on condylomata on semi-mucous surfaces—Deep excavated ulcers of tonsil.
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Iritis—Muscular pains—Arthritic pains—Pains in bones—Periostitis—Nodes.

The above table contains the principal affections of constitutional syphilis termed secondary, in which the venereal poison still exists, and may, therefore, be communicated by cohabitation, and transmitted to the offspring, and in which mercury is beneficial, and iodine of but little or no service.

In tertiary syphilis, syphilitic cachexia, or sequelæ of syphilis, the following pathological conditions are found:—

Inflammation of fibrous membranes.	Periostitis—Resulting in nodes. Caries and necrosis of bone. Affecting fibrous tissues of joints—Arthritis. Affecting fibrous tissues of testicle—Orchitis. Affecting fibrous tissues of globe of eye—Sclerotitis.
Affections of skin and mucous membranes.	Rupia—Cachectic ulcers of skin. Rapid ulceration and sloughing of the soft palate, fauces, pharynx, and larynx; of the rectum, vagina, nymphæ, and labia.
Deposits of fibro-plastic lymph imperfectly organized.	In the areolar tissue (subcutaneous or submucous tubercles). In muscular tissue: more frequently met with in the tongue, and occasionally in other muscles; also met with as post-mortem appearances in the liver, spleen, kidneys, lungs, and other viscera.
Lardaceous and waxy deposits.	Occasionally found in the post-mortem examination of the bodies of persons of dissipated habits.

In the above table are classed the pathological changes which occasionally present themselves in patients who have passed through the primary and secondary stages of syphilis, but in whom the venereal poison no longer exists, and cannot therefore be transmitted. The remedies required in these affections are especially iodine and sarsaparilla, and mercury is injurious.

There might be, he said, a few exceptions to the strict line drawn in these tables, but the exceptions could be readily understood, and rather tended to prove the rule—for instance, periostitis and nodes would be found in both tables: when of early appearance and associated with secondary affections, mercury should be given; when of late date and coexisting with tertiary affections, then iodine should be the remedy. Tubercular and ecthymatous eruptions would occasionally be found to run into rapid destructive ulceration, and this, again, indicated the supervention of syphilitic cachexia. Again, iritis would be sometimes met with in tertiary syphilis; it would be found, however, that the affection commenced in the sclerotic or fibrous coat, and had extended to the iris. In all these cases the predominant coexisting symptoms would always indicate the constitutional condition of the patient, and the treatment required. The lecturer attributed the unsettled state of opinion of which he complained to the variety of views taken by different authors on syphilitic affections. Some pathologists objected altogether to the division of the symptoms into secondary and tertiary, and held that, as they all were consequent upon the primary infecting chancre, the term secondary should include both groups. Dr. Wilks also objected to this division, and preferred to include all primary and secondary affections under the term syphilis, and all the tertiary of other authors, with the exception of the fibro-plastic deposits, under the title of sequelæ of syphilis. Many practitioners who did admit the classification of the symptoms into secondary and tertiary had, he observed, not made up their minds to which group some of them properly belonged. He thought, however, good practical grounds existed for the divisions explained in the tables.

With respect to the true nature of syphilitic cachexia, the lecturer confessed

that we were still in ignorance. He was himself in favor of considering it a dyscrasia of the blood, and would venture to advance a theory founded upon the well-known views of Liebig with respect to the mode of action of animal poisons on the blood. He compared it to the formation of yeast by fermentation in a saccharine solution to which gluten had been added. So long as any gluten remained yeast could be formed, but its formation ceased when the gluten was exhausted, and could be renewed only by the addition of more gluten. Syphilization had taught us that the venereal poison, like that of variola and vaccinia, could not be produced in any individual to an indefinite extent, and that the power of generating it became sooner or later exhausted, when he was said to be syphilized. Applying these data, Mr. Lane explained his theory to be that the act of generating the venereal poison in its primary and secondary states had completely exhausted the blood of one or more of its normal constituents not readily reproduced, and that this deteriorated blood constituted the syphilitic cachexia or tertiary syphilis, the morbid condition under consideration. He also suggested that mercury might possibly prey upon the same unknown constituents of the blood, and thus prove beneficial by taking from the venereal poison that upon which it depended for its formation. This view of the action of mercury would support the very general opinion that tertiary syphilis was the result of the joint action of syphilis and mercury on the system, and would also satisfactorily explain why mercury should not only cease to be beneficial, but should prove to be injurious. Mr. Lane thought that this theory, however imperfect, might serve to account for many of the phenomena observed in tertiary syphilis, such as the inability of patients suffering from this malady to transfer the poison of syphilis to others, also the extreme difficulty of inoculating such persons with the primary venereal poison; and, again, why restorative remedies—iodine, sarsaparilla, steel, and quinine—combined with good living and other stimulants, should be found more beneficial than mercury in the treatment of these cases.

Having explained that his theory would lead him to attribute the debilitated and asthenic condition of the sufferers from tertiary syphilis to the absence of certain unknown constituents of the blood, he proceeded to observe that the principle upon which the treatment should be conducted was to restore these constituents, and that, consequently, all evacuates, and especially preparations of mercury, all debilitating influences, all wear and tear of system, all over-exertion of mind or body in pleasure or business, should be avoided; and that, on the contrary, tonic, stimulant, and restorative measures, combined with good generous diet and judicious hygienic regulations, were the remedies to be depended upon. The medicines which were found of most service were iodine and sarsaparilla; their *modus operandi* was not understood, but they were of far more value than the ordinary tonics—steel, bark, and the various other bitter and astringent remedies. With regard to the salts of iodine, the lecturer's experience led him to say that they were powerfully stimulant, and had even a tendency to produce inflammation. He related a case in proof of this where the iodide of potassium, given in three-grain doses, was followed three successive times by an inflammatory attack, and was obliged to be relinquished in consequence. In reference to the large doses in which this medicine was sometimes given in the present day, he remarked that twenty-five years ago, having heard that some French surgeons administered this remedy in two-drachm doses, he had given it in that quantity thrice daily to one patient in the Lock Hospital for three weeks in succession without noticing any more marked effects, beneficial or otherwise, than from the ordinary five- or ten-grain doses. He was convinced, however, that some degree of caution was necessary in administering this remedy in large doses. He had seen one case where a gentleman of his own accord took as many as ninety grains thrice daily for years, and usually with impunity, but in whom the poisonous effects showed themselves from time to time by attacks of hyperæsthesia, and ultimately of temporary paralysis of the lower extremities. Sarsaparilla, he observed, was, in his opinion greatly undervalued by many surgeons as a remedy in tertiary syphilis. He was old enough to remember, before iodine was introduced, when surgeons were obliged to depend upon this drug alone in the treatment of these

cases, and he was glad of this opportunity of expressing his decided opinion of its value. Before the introduction of iodine he had fully tested the powers of sarsaparilla as compared with those of steel, bark, and other tonics, by treating cases in the Lock Hospital, under the same hygienic conditions, alternately by the latter remedies and by sarsaparilla, with the result of convincing him that they possessed little or no efficacy, and that sarsaparilla was the most powerful remedy then known in the treatment of tertiary syphilis.

Mr. Lane, having made these general observations on the subject of treatment, and having laid down the principle upon which it should be conducted, gave the details of the plan he had found most generally useful. It consisted of administering the iodide of potassium in doses of from three to ten grains, taken in the third of a pint of the simple or compound decoction of sarsaparilla as a vehicle, three times daily, alternating with a pill of two grains of quinine and three grains of confection of opium, also taken thrice daily. He had found opium of service not only in allaying pain and irritability, but also in moderating the secretions, and thus preventing unnecessary waste. Exceptional cases might require the iodide to be increased to fifteen or twenty-grain doses. Diarrhoea, which is not unfrequent, must be met by larger doses of opium and the ordinary astringent remedies. The local treatment be considered of secondary importance, and did not feel warranted in occupying their time with it; the general principles of surgery would sufficiently guide them.

After referring to some remarkable cases of disease, Mr. Lane concluded by observing that the task he had set himself was to make clear to his hearers in what class any given case of constitutional syphilis should be grouped, and how it should be treated. If he had at all succeeded in his endeavor, he would have the satisfaction of feeling that their time and his had not been altogether thrown away.

ART. 124.—*On the Prognosis of Syphilis.*

By F. R. STURGIS, M.D., Assistant-Surgeon of the Manhattan Eye and Ear Hospital, New York.

(*American Journal of the Medical Sciences*, July.)

From what has been written, Dr. Sturgis has arrived at the following conclusions:—

1st. That syphilis is a self-limited disease, and the patient, if blessed with a sound constitution, will, in the average of cases, get well, even if left untreated; but this course exposes to great and serious risk.

2d. That some general idea may be formed as to the future from the character of the earlier lesions; *this rule, however, is not absolute, as some cases do occur where the early stages are slight and the subsequent ones severe.* They are, nevertheless, I think, exceptional.

3d. That as the disease progresses, the prognosis is less favorable, more especially where important organs are attacked, such as those of the nervous or arterial systems; and,

4th. That in forming an opinion, due regard must be given to the age and general health of the patient, and in the treatment attention must be paid, besides the proper use of specific remedies, to strengthening the patient, if debilitated from any cause whatsoever.

ART. 125.—*On Peculiar Modes of Transmission of Syphilis in Married Life.*

By VICTOR DE MÉRIC, F.R.C.S.

(*British Medical Journal*, August 30.)

The author passed first in review the modes in which a wife may be contaminated by her husband, and *vice versa*; paying particular attention to those cases where no outward signs of syphilitic taint are apparent. He alluded,

then, to the share of gestation in the mechanism of the contamination of the wife, observing that impregnation is not the only mode in which she may become affected with the complaint. Numerous facts had put beyond doubt the modes of transmission just alluded to; but he had met with cases where contamination had been effected in an exceptional manner. The author then related some of his exceptional cases. The first had reference to a gentleman who had been under his care several years before his marriage, and had passed through the usual periods of syphilis. He married eighteen months after the last symptoms, and a series of healthy children were born. That father suffered now and then from impetigo, and had once very severe osteitis; but neither the wife nor children experienced any contamination. About ten years after marriage, the husband was indiscreet, and caught a chancre which subsequently became phagedænic. Considering the lesion, at first, as a mere abrasion, he took no precautions, and the result, unfortunately, was the breaking out of a fearful set of symptoms of syphilis in the wife. The author now asked whether this case did not prove that the secretion of a soft chancre, seated in a syphilitic individual, might convey the general disease; and added a few remarks as to the effects of pathological secretions from a person suffering, or having suffered, from syphilis. The second case was illustrative of the great difference between occasional intimacy and the actual bonds of marriage. In this case the disease was conveyed from wife to husband, though no such accident occurred through several years of former intimacy. The third case related to a married gentleman, who caught a chancre which eventually proved indurated. The lesion was, however, so insignificant at first that no heed was taken. The wife was far advanced in pregnancy at the time, and the consequence was that fœtus and mother were contaminated. These facts would go far to prove how infectious was the chancrous erosion in its nascent state. The fourth case was of a remarkable kind, as the gentleman suffered from systemic syphilis without having ever presented a primary sore. Here the wife escaped at first, but eventually had the disease through her infected child. Mr. de Méric alluded subsequently to a few other cases, in which mothers and numerous children remained healthy, though the husbands suffered from syphilis before and after marriage. He concluded by mentioning instances where the wives of syphilitic husbands had fallen into bad health, without presenting any actual symptoms of the disease.

This paper gave rise to a discussion bearing chiefly on the question as to the frequency and forms of transmission of syphilis to the offspring, and as to its transmission to offspring without affecting the mother.

Mr. Gant mentioned an instance of a married patient who, after having borne healthy children, acquired syphilis from her husband, and after some time gave birth to a healthy child. A recrudescence of the disease some years afterwards was followed by the birth of another healthy child. Mr. Gant mentioned the possibility of these children exhibiting symptoms after the period of the second dentition.

ART. 126.—*The Treatment of Syphilis.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Mr. Jordan has long been in the habit of treating primary syphilis (as well as secondary) with extremely small mercurial doses, and he has seen a large number of cases where, with marked Hunterian induration, there have followed absolutely no signs of secondary syphilis. In destructive tertiary ulceration of the nose or lips, or face generally, as also in specific oozæna, Mr. Jordan always adds a seton at the back of the neck to the ordinary syphilitic treatment, and with striking benefit.

ART. 127.—*Treatment of Wounds of Joints.*

By FREDERICK J. GANT, F.R.C.S., Surgeon to the Royal Free Hospital.

In speaking of the treatment of wounds of joints, Mr. Gant states, in his elaborate treatise on the "Science and Practice of Surgery," that preservation of the limb—without any operative interference—should always be attempted in the first instance, but the probability of success will depend chiefly on the nature of the wound and the extent of the synovial membrane, or the size of the joint. A small incised wound or puncture, in a small joint, as one of the finger joints, allows of preservation with great probability of success; a large, open, and perhaps contused wound, in a large joint, as the knee, is almost surely fatal to limb and life. Among large joints, however, those of the upper extremity, the shoulder, elbow, and wrist, are, commonly, unfavorably disposed than in the lower extremity—the hip, knee, and ankle. To save a joint, the wound must be at once closed, thus to solicit union by primary adhesion. A pledget of lint or piece of isinglass-adhesive plaster may be used for this purpose, or the dressing with carbolic acid paste or tinfoil. Repression of inflammation can sometimes be accomplished by rest and cold evaporating lotions. Synovitis having proceeded to suppuration, the synovial capsule having become converted into an abscess, the joint should be laid freely open by incisions, as advocated by Mr. Gay, and a portion of the limb secured favorable for its utility, in the event of irreparable destruction of the articulation, followed by ankylosis. Destruction of the joint without this issue must be met either by *excision* of the diseased bone, or by *amputation* of the limb. The choice of these alternatives should be determined by a due consideration of the local and constitutional conditions. An open, and perhaps *contused*, wound of a *large* joint, as the knee, represents conditions which may justify immediate amputation. Fractures involving the joint, or dislocations, as complications, mostly demand immediate amputation.

ART. 128.—*Sleeping Sickness.*

By JOHN W. OGLE, M.D., F.R.C.P., Physician to St. George's Hospital.

In a clinical lecture at St. George's Hospital, in which the results of pressure upon contiguous nerves and bloodvessels by tumors, aneurisms, etc., in the neck were alluded to, Dr. Ogle brought before his class the following communication, which in 1869 he had received from Dr. M'Carthy, Staff Assistant-Surgeon, at Acera, in West Africa, and which, he observed, bore upon the various views as to the mechanism of sleep which had been entertained. Referring to a paper which appeared in the *Lancet*, March 20th of that year, containing the history of a case of ligature of the carotid artery, Dr. M'Carthy wrote as follows:—

"In a note to your clinical observations on the case you describe, you state that you intend preparing a paper containing the results of arrest of circulation in the vessels from pressure of tumors, etc., as regards cerebral symptoms produced by such conditions, and as the following facts of a very peculiar disease bear more or less on the subject you are about to write on, I send you the particulars, with a hope they may be of some little interest to you.

"The malady I write of is called by the natives of this country the 'sleeping sickness,' from the fact that by day as by night the patient shows an extraordinary tendency to drop off to sleep; in fact, cannot remain awake unless some particular cause keep him from sleep.

"The first case of this disease I happened to meet with was on the Island of Buluma, in 1867, and as those I have since seen and heard of correspond exactly in symptoms, cause, etc., with it, I think the subject not unworthy of your consideration. In the first place, I must tell you that I have seen but one patient suffering from the complaint, and as he refused to have an operation performed on him, and has since gone into 'the bush,' I know no more

about the case. All the other cases I have seen were patients on whom the operation had been performed, and I give you the history, treatment, and result entirely from their accounts, and from the stories of many natives of the country to whom I have spoken on the subject.

"In every case of 'sleeping sickness' there is invariably a chronic thickening of the deep cervical glands of the neck, I mean those glands commonly called the 'glandula concatenata,' and which form a chain from the base of the skull to the clavicle. The treatment adopted by the native 'doctors' consists in removing those thickened glands. I have never seen the operation performed, but it is said to be always followed by cure. In one man I counted no less than thirteen cicatrices in the neck.

"The above disease is not uncommon at Buluma and on the banks of the neighboring great rivers, and was supposed to be nearly confined to those places, but I have seen a few patients who have been operated on near this place—i. e., the Gold Coast. I have spoken to many of the natives of Acera, but they appear never to have seen or heard of the disease; and the few cases I have met with here I found in what are called 'bushmen,' so that probably the disease exists in the interior, and not on the coast of this part of the country.

"I am under the impression that the sleeping symptoms are caused by pressure on the vessels leading to the brain, and by consequent diminution of the supply of blood to that organ, causing a tendency to sleep. We know that those deep cervical glands are particularly numerous at the division of the common carotid artery, and the pressure on the internal carotid may account for the symptoms alluded to. How those so-called native 'doctors' extirpate the glands from such a site is more than I can account for. They are perfectly ignorant of anatomy, and yet I have never heard of a fatal case resulting from the operation."

ART. 129.—*On the Use of Resin-Cloth, in the place of Cere-Cloth, in the Treatment of Wounds.*

By EDWARD LUND, F.R.C.S., Surgeon to the Manchester Royal Infirmary.

(*Medical Times and Gazette*, July 19.)

"To those who practise the system of dressing wounds advocated by Professor Lister, the use of the carbolyzed gauze which he employs, as far merely as expense is concerned, is a matter for consideration. This, perhaps, is the case more in hospital than in private practice, because in the former, at the present time, the gauze is largely used to test the value of the antiseptic method, and economy should be observed as far as possible. Moreover, beyond the cost, there is a difficulty in the preparation of the gauze, for the mixture of paraffin and acid with which the fabric is saturated must be applied to it in a heated liquid state, and, unless a certain temperature be maintained during the whole process, the gauze will be of unequal thickness and imperfectly porous. I have tried to make the gauze myself according to Professor Lister's recipe, but I have often failed to do so in these particulars. In the paper in which he first described this dressing (in the *British Medical Journal* of January 14, 1871, p. 30), Professor Lister refers to a very curious property possessed by carbolic acid—viz., that it can be combined with resin, and resinous matters generally, with great facility, and when so blended nearly all its irritating acrid properties are neutralized, while the compound so formed retains the power of evolving an antiseptic vapor at the temperature of the body. It is well known that to touch the mucous membrane or even the skin of the lips with a fragment of pure carbolic acid occasions pain and excoriation, in some subjects more than in others; but when we experiment in the same way on a mixture of the acid with five parts of resin we find all the acidity is destroyed; the acid is still present, but it is stored up and rendered harmless by this new combination.

"Having verified this fact by numerous observations, I came to the con-

clusion that we have here a method of forming easily, without the aid of heat, an application for antiseptic purposes, in surgical practice, of great value. All that is required to carry out the idea is to saturate very thin calico gauze with such a mixture of resin and acid dissolved in methylated spirit, press it powerfully, spread it out to dry quickly, so that it may become quite porous and absorbent, and it is ready for use. Yet the resin and acid thus left upon the threads of the calico after the complete evaporation of the spirit would be found too brittle and adhesive to the skin for a wound-cover and air-filter if something else were not added to impart flexibility. The substance which I employ for this purpose is castor-oil, because it is the only fixed oil easily accessible which is quite miscible with spirits of wine. All samples of castor-oil, by reason of adulteration, do not show this property of perfect solubility in alcohol, as stated by Pereira (*'Materia Medica and Therapeutics,'* 1865, p. 251), and therefore I am content to use the oil if it will unite perfectly with twice its bulk of rectified spirit. The exact composition of the solution is as follows: Carbolic acid crystals, melted, two fluidounces; castor-oil, two fluidounces; purified resin, sixteen ounces by weight; methylated spirit, forty fluidounces—mix.

"To dissolve these ingredients easily we must add them together in a certain order. To the resin, liquefied by heat and removed from the fire, add gradually one-third of the spirit; when these are well mixed, put in another third of the spirit, in which the oil has been previously dissolved; and lastly, the acid in the remaining portion of the spirit must be slowly added to complete the mixture. The whole must be agitated until all the constituents are thoroughly incorporated, and afterwards passed through a muslin filter to get rid of any extraneous matters. Unless this plan be adopted, the resin will congregate into a mass at the bottom of the vessel, and it will be extremely difficult afterwards to get it perfectly mixed. When thus prepared, the solution is of a dark color, clean and free from any deposit, and it can be kept unchanged in a well-corked bottle for a long time. It is, in fact, a sort of thick varnish. To make the resin-cloth—as I term it, for the sake of distinguishing it from the cere-cloth dressing for wounds which I described in a paper read at the Leeds meeting of the British Medical Association in 1869—it is needful to select a very thin, cheap, porous calico, or calico muslin, known in the trade as 'mull,' which costs at wholesale price about 4s. per piece of twenty yards. This divided into strips, each about nine inches wide and six yards long, is reduced to a convenient form for general use. The calico should be unbleached and free from stiffening, and each of the strips should be carefully folded up, so as just to lie flatly in the press, as I am about to explain. An ordinary square tincture-press may be used to press the cloth, or such a press as is sold for copying letters, to which a tin box has been adapted, so that the plates of the press can work in it, and in this box the folded calico is placed, the solution being poured over each successive layer so as to wet perfectly every part of it. There should be an aperture at the bottom of the box, with a tap by which the superfluous fluid can be removed, collected, and used a second time. The press being brought into action, the pile of calico should be squeezed as dry as possible, all the fluid drained off, the resin-cloth taken out, laid over a few lines of string in a warm room with good ventilation, and, in an hour or two, when all traces of smell of the methylated spirit have been dissipated, the cloth may be rolled up and kept in tin cases ready for use.

"It is difficult for me to state the exact cost of resin-cloth made by this process, for I have not yet bought the materials for its preparation at such wholesale prices as could be paid if it were to be manufactured in large quantities, but, allowing for some slight reduction where six or eight twenty-yard pieces of calico are bought at a time, and the solution made by the gallon, I find it comes to a fraction less than 3d. per yard of average width of forty-four inches. In using it as a dressing for wounds, I deal with it precisely as I would do with Professor Lister's antiseptic gauze, for which it must be taken as a cheap and ready substitute. I generally apply ten folds of it over the face of a wound (as in an amputation), and perhaps six folds higher up the limb for some distance, and I cover it with the mackintosh hat-lining, so as to distribute the serous discharges through the breadth of the resin-cloth thus covered. I have never

found it to irritate the skin in any degree beyond what the oil-silk protective, liberally used, could control, except once, when, in the hurry of preparing the resin-cloth, I had neglected to dry it thoroughly, and it was applied still moist with the methylated spirit, the naphtha in it seeming to be the chief cause of the skin irritation. But if this precaution be observed, I believe this resin-cloth will be found a very useful addition to our means of treating wounds and abscesses on antiseptic principles."

ART. 130.—Two Cases of Tetanus cured by Neurotomy.

By Drs. RIZZOLI and MARTINELLI.

(*Gazette Hebdomadaire*, No. 31, 1873.)

Attempts to treat tetanus by surgical proceedings have been made from a very early period, and Celsus wrote of dilatation of wounds as a means of acting on diseased nerves. Neurotomy or ablation of a portion of nerve was practised by Froriep and subsequently with success by Murray, Hicks, and Pecchioli of Sienna.

One cannot deny the utility of section or resection of nerves in certain cases of traumatic tetanus, but it is necessary to bear in mind the conditions which indicate the operation. The presence is necessary of a series of symptoms which indicate a tetanus of local origin, and which may enable us to fix upon the injured nerve. The two following cases serve to demonstrate the possibility of successful interference:—

In the first case symptoms of tetanus appeared nine days after crushing of the fourth and fifth toes. Dr. Rizzoli discovered in the wound a white filament, which he recognized as a nerve; on touching it he caused intense pain to the patient, which was followed by tetanic convulsions. This nervous filament having been excised, the pain in the foot ceased, and the convulsed muscles became less active. The tonic convulsions gradually disappeared, and sixteen days after the neurotomy the cure was complete.

The second case was one of gunshot wound of the left forearm. The ball, having lacerated the muscles in front of the limb, had lodged near the elbow, under the skin. On the eighth day there was hemorrhage, which necessitated deligation of the brachial artery. Two days later an abscess was opened near the fold of the elbow, and eight days later tetanic convulsions came on in the arm; these soon affected the whole body. Dr. Martinelli secured a portion of the musculo-cutaneous nerve, and in three days the tetanic symptoms had disappeared.

The cases of tetanus in which one might justly feel disposed to perform section or resection of a nerve are those in which there exists a very intense local pain, or in which a kind of aura has been experienced by the patient, taking its origin at the seat of the injury; finally, those in which one may assume from the seat of the lesion some morbid change in the nerves, and determine the nerve trunk accessible to operation by its correspondence with the branches which are the seat of the lesion.

ART. 131.—On Skin Grafting.

By FURNEAX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

In speaking of the practical benefit of skin grafting, Mr. Jordan says that on large surfaces after burns, after operations for burns, after plastic operations; indeed, on granulating surfaces of any kind, the grafting of minute pieces of epidermis is attended with unquestionable benefit. In one locality, however, and under circumstances where new growths of permanent skin would be of inexpressible value, skin grafting has conferred little advantage. In Mr.

Jordan's experience, in old and large ulcers of the leg, the new skin derived from the grafts, and the grafts themselves too often disappear when the erect posture and occupation are resumed.

ART. 132.—*Antiseptic Treatment of Wounds.*

By JOHN WOOD, F.R.S., F.R.C.S., Professor of Surgery in King's College.

(*British Medical Journal*, August 9.)

Professor John Wood, in his admirable Address on Surgery before the British Medical Association, at its recent meeting, remarked: "Pyæmia, septicæmia, and erysipelas, are undoubtedly the greatest troubles in modern surgery." "When, therefore, a system of dressing wounds is brought before us, sanctioned by worthy names, and supported by the results of cases, offering a means of escaping these terrible enemies, it is our bounden duty to give it a fair and full trial.

"Such is the antiseptic system of dressing wounds originally developed by Le Maire in 1860 and 1865—in the use of coal tar, and its derivative carbolic acid, as an application to wounds. As long ago as 1815, French chemists had proved the antiseptic qualities of oil of tar

"A great impulse was given, in this country, to the use of carbolic acid by Professor Lister, in February, 1867, well known to the Association from the exposition of his method by that talented surgeon to the meeting at Plymouth. Since that time I have given his system, I believe, a fair trial at King's College Hospital. At the same time, and under the same conditions, as far as could be obtained, I have employed the solutions of carbolic acid in oil and water, and those of metallic salts, as well as other antiseptic substances, such as chlorozone, etc., but without the elaborate attempts to exclude the unpurified atmospheric air which Lister deems essential. . . .

"As an experimental and scientific mode of research, which may turn out to be also a converging line in surgery, I have the highest possible respect for Professor Lister's system of treating wounds.

"Upon his theory of germs, it is consistent and simple enough; but it is as a practical method of treating open wounds, available under ordinary circumstances, in hospitals and private practice, in emergencies, and on the battle-field, that it must be estimated, and will ultimately take its place; and it is with that view that I have put it, as far as possible, to the test. I began it at a time when the hospital was in a good hygienic condition, and the cases for that time did admirably. I had some cases quite equal to any described by Professor Lister himself. I at the same time tried the application of dry lint, without any moisture whatever, to the wound, and in many cases, especially in breast cases, the results were also perfect. In one breast case union by adhesion occurred throughout the wound. I also tried the application of the chloride of zinc solution in the manner originated by Mr. De Morgan, and very good results ensued—viz., healing with the formation of little or no pus. After about six months there came into the hospital a very unfavorable change, and, from inquiries made at the time, I concluded that a similar condition prevailed in most or all the London hospitals. Erysipelas and its concomitant pyæmia began to show themselves, the former not springing up in the hospital itself, but imported with patients. The wounds now began to suppurate more, primary healing was less common, and the erysipelatous blush appeared with blameworthy impartiality in cases treated in all kinds of ways, and almost as impartially on my own antiseptic side of the hospital as on my colleague, Sir William Fergusson's, non-antiseptic side. But this I feel bound to say, that there was little or no putrefaction, as evinced by the odor, in any of my cases, which my eminent colleague shrewdly attributed to the carbolic smell overpowering all others. Upon this point, however, I must say, I did not agree with him. I had one case of amputation of the thigh for a tumor of the lower end of the femur, in a man about sixty. I treated it by Lister's method,

carefully carried out, and, from beginning to end, there was very little discharge, and no putrid or offensive smell whatever; but the wound did not heal, the end of the bone remained unadherent and devoid of granulations, and the man lingered for two months in a declining and emaciated state, and finally succumbed to chronic pyæmia, with secondary abscesses in various parts. The occurrence of many other cases, similar in character to this, has convinced me that the agencies, whatever they are, in pyæmia, operate in the general system, or, if through the atmosphere, in other channels besides the wounded part, as in cases of pyæmic poisoning from deep internal glandular pus deposits, and in other acute and chronic tubercular affections.

"Some time afterwards I had a case of compound fracture of the tibia and fibula, with a limited aperture in the skin, in a man nearly seventy years of age. I put it up carefully in Lister's method, carbolic spray, prepared gauze and jaconet, complete. On dressing it several days afterwards, suppuration was found to have occurred, and the pus had accumulated considerably in the dressings. The treatment was continued, and kept the wound free from all unpleasantness, but still the amount of suppuration was very considerable. There was burrowing of pus along the muscles and bones, and a total want of union. In this case I was ultimately obliged to amputate below the knee. The amputation wound was also treated antiseptically, but still the amount of pus was considerable, and although, from the man's age and reduced condition, the progress of healing by granulation was slow, the case did ultimately exceedingly well, and made an excellent stump.

"In some cases of psoas abscess treated by Lister's method we had marked success so long as the hospital was healthy. When erysipelas and pyæmia appeared, however, we had others in which the pus in the abscess became putrid and offensive after the first evacuation under the spray and with all the precautions, and I was obliged to make free openings and introduce drainage tubes through which the abscess could be washed out thoroughly with antiseptic. Such cases show that we cannot without danger depart, in the generality of wounds, from the old rule of providing a free exit for all purulent and offensive discharges, and for the want of this the exclusion of air is not a sufficient compensation. I cannot consequently approve of the plans originated by Baron Larrey and followed by Gosselin, and more lately by J. Guerin and Maisonneuve, of 'occlusion pneumatique,' the amount of resemblance to which, in Lister's method, constitutes, it seems to me, some part of its deficiencies. To a great extent this objection also exists to the plan followed during the second siege of Paris by Alphonse Guerin, of using thick investments of compressed cotton-wool after washing the wound with alcohol, and then leaving it, without disturbance or removal of the deeper layers, for periods varying from a fortnight to two months, or even more. This plan of keeping from the wound injurious atmospheric influences seems to have been induced from Professor Tyndall's experiments upon the purifying results of the cotton filter of Pasteur. It was shown by Hervey that, as used by Guerin, it neither prevented putrefaction and fetor in the wound, nor the formation of abundance of microzoa therein. Here again we have instances of the propriety of that regular and systematic inspection of wounds which the practice of hermetically sealing them up prevents us from obtaining.

"In clean incised wounds, where the formation of pus is not likely to occur, as in some plastic operations, the hermetically-sealing plan will no doubt maintain its position in general use in its most useful form of collodion. But when suppuration ensues, it must be got rid of. Its absorption by dry earth, as advocated by Dr. A. Hewson, of Pennsylvania, has the disadvantage of being dirty and offensive to the patients, and of obscuring by its color the natural appearance of the wound when in contact with it, but as a substitute when better absorbents cannot be obtained, it seems to be of some value. Much the same may be said of charcoal. When this substance is combined with coal-tar, however, as in the way advocated by Dr. Beau, it would seem that a great part of the antiseptic vapor would be absorbed by the charcoal, and the two remedies to some extent thus neutralize each other."

ART. 133.—*Isolation and Treatment of Wounds.*

By GEORGE W. CALLENDER, F.R.S.

(British Medical Journal, August 30.)

The author described to the Surgical Section, British Medical Association, a plan of treatment which he had followed for several years in St. Bartholomew's Hospital, and of which the results were at least as satisfactory as those following the employment of the antiseptic method, while it was much more simple. In 199 cases treated in this way there had been six deaths; and in 28 cases of compound fracture, and 33 of amputation (including 14 of the thigh), there had been no deaths. The author insisted on the removal of foreign bodies, and expressed his objection to ligatures as being in fact foreign substances. Instead of tying arteries he used torsion. After all bleeding had stopped, the wound was washed with carbolic acid (1 in 20 of water), closed with silver sutures, and fitted with a drainage-tube (a suitable form of which Mr. Callender had had made). After this, layers of lint dipped in carbolized oil (1 in 12 of olive oil) were laid over the line of incision or over the laceration; and over these a quantity of cotton-wool for warmth and protection. After the dressing the wound was placed in such a position as to secure absolute rest. After the first day the drainage-tube was generally removed, and the dressings were applied as before. No special provision was made for excluding the air. As far as practicable each case was placed between patients free from wound or discharge, and the wound was cleaned by means of a camel-hair brush, with a solution of carbolic acid in five parts of spirits of wine. Mr. Callender remarked that in this plan antiseptic treatment was used in a limited way, and that the results which he brought forward showed that, with the exercise of proper care and supervision patients did as well in a large hospital as anywhere else.

Sir John Rose Cormack (Paris) said that he had, during the two sieges of Paris, treated a great variety of the worst description of shot and shell wounds, and he had seen similar cases treated contemporaneously by others, and his firm conviction was that the success was not so much with the skilful operator as with the man who patiently and with scrupulous care conducted his dressings and attended to the hygiene of his patients. Mr. Lister's system was not adopted in the American ambulance, nor in either of the hospitals of which he (Sir John Cormack) had charge; and yet in all these the success was very remarkable. The system which Sir John Cormack adopted (varying it according to circumstances) was to tide over the period of shock by large opiates; to use in all the dressings abundance of *étoupe goudronnée* or oakum, which, from its antiseptic properties and its power of absorbing the discharges, as well as its elasticity, was used universally in the American and English ambulances. He gently washed the wounds and the surrounding parts at each dressing with creosote water, to remove adherent noxious discharges; and the crevices were carefully cleansed by injecting the same fluid. When necessary and at all possible, incisions were made, and drainage-tubes were used to prevent the accumulation of discharges in crypts or pouches. The very simple and effectual method suggested by Mr. Callender, of lightly brushing out the cavities with a camel-hair pencil, would no doubt have answered as well as, and in some cases perhaps even better than, the syringe. He attributed much of Mr. Lister's success to the general medical and hygienic treatment which that gentleman strenuously carried out, rather than to the niceties and complexities of his special system. In support of his views, Sir John referred to some of his cases of lacerated wounds and amputations, in which, he believed, recovery was mainly attributable to the system which he briefly described, and in some instances to the additional precaution of changing the personal and bed linen once, and sometimes even more frequently, in the course of the day. This had been done in one case where the patient had seventeen lacerated wounds, and made a good recovery. An additional precaution was generally taken—to wit,

having the patients carried out on stretchers to the free breeze of the garden, whenever the weather permitted, so that their bedding and the wards might be cleaned. In addition to this the floors and beds were regularly watered with creosote water several times a day.

Mr. Gant (London) was of the same opinion with regard to Mr. Lister's plan.

Mr. Green (Bristol) had found that many years of large hospital experience only wedded him the more firmly to the doctrines long since taught him by Mr. Lawrence—namely, extreme simplicity in the treatment of wounds, and above all, a free outlet for discharges.

Mr. Cresswell (Merthyr Tydfil) and Mr. Hemingway (Dewsbury) also spoke. Mr. Lund (Manchester) said that Mr. Callender's method was really antiseptic, while its simplicity was to be admired.

Mr. Hey (Leeds) had given Mr. Lister's plan a fair and unprejudiced trial, but repeated experience of it had convinced him that even when carried out carefully by Mr. Lister's own pupils, the method showed no superiority over a simple plan of treatment such as that employed by Mr. Callender. He had even seen union delayed in wounds by reason, as it seemed, of the employment of the more elaborate antiseptic dressings, although in other cases it answered all expectations. Mr. Callender, in reply, pointed out that his plan involved absolutely no precautions against the admission of air, and could not, therefore, be considered as a proof of the superiority of Mr. Lister's method of "antiseptic" treatment.

ART. 134.—*Fallacies and Failures in Antiseptic Surgery.*

By E. LUND, F.R.C.S., Manchester.

(*British Medical Journal*, October 18.)

The author described certain fallacies, or erroneous notions, which seemed to be ascertained in reference to the antiseptic treatment of wounds. He arranged these in six classes, having reference (1) to the mode of action and exact influence exerted by carbolic acid; (2) the presence or absence of suppuration; (3) the use of pus as a solvent for indurated tissues; (4) the effects of the entrance of air; (5) the contagion of septic matters; (6) the necessity for absolute cleanliness in the management of wounds. The sources of error or failure in this mode of dressing, especially after operations, were also considered under six heads: 1. Imperfect preparations before the operation, so as to free the parts implicated and the instruments employed from septic matters; 2. Inefficient assistance during the operation, with the same object; 3. Imperfect adjustment of the dressings after the operation, so as to filter and disinfect the air which must gain access to the wound; 4. Delay in the removal and replacement of the dressings; 5. Carelessness in the particular method of doing this; and 6. Erroneous notions as to the possible approach of serious symptoms in the progress of any case which would yield to a steady perseverance in the plan, but which often led to its entire abandonment at the most critical stage of treatment. All these points were brought forward as deductions from direct personal observations by the author himself, in his daily practice of the antiseptic system.

ART. 135.—*Chronic Inflammation of the Spinal Cord and its Membranes; Disease of the Spleen.*

By WILLIAM STOKES, M.D., F.R.C.S. Ireland.

(*Dublin Journal of Medical Science*, July.)

At a recent meeting of the Pathological Society of Dublin, Dr. Stokes detailed the following case and exhibited the recent specimens:—

The patient, aged fifty, was admitted to the Meath Hospital Dec. 11, 1872. She was a washerwoman, and had worked very hard, being exposed to frequent

and sudden changes of temperature. She had had indifferent health for about twelve months. About this time last year she became subject to pains in "all her bones," but particularly in those of the spine. About six months ago her bladder became troublesome—she passed little water, and that at unnaturally long intervals, though she had frequent desire to do so; and micturition, at its commencement, caused a stinging sensation in the urethra. These inconveniences increased; and six weeks ago the pains became more severe and less intermittent. From that time the bladder irritation became more annoying, and finally, three weeks ago, her head was suddenly drawn back, and she became utterly unable to work.

She had not been exposed to contagion, nor could she attribute her illness to anything but "cold and hard work."

On admission, the following was her state: Her head was forcibly retracted, it being impossible for herself or any one else to draw it forward. She cried out with pain, which she said "ran through all her bones"—it was in her legs, arms, back, and head. This pain was of a "shooting" character. There was extreme tenderness all along the spine—she could not bear to be touched. Her arms and legs also were sore to the touch. There was a constant tremor in the arms and upper part of the trunk. The muscles of the arms were unnaturally tense and resisting. She constantly grasped the bedclothes, or anything she could get hold of, with great firmness. There was a remarkable curvature of the spine forward in the lumbar region; but there was nothing else about the part which would strike one. She complained of being "dead cold." She lay either on her mouth and nose, or half on her face and half on her side—she could not attempt to lie on her back. She could not move from one posture to another in bed. The skin was very cold. The pulse 100, and so weak that it could only be counted at the heart. The heart's sounds were both present, though weak and distant. Her bowels had not been moved for nearly a week. She had, just before coming in, evacuated her bladder for the first time for two days. The tongue was covered with a yellowish-white fur. She was heavy, dull, and stupid. The pupils were normal and answered to the stimulus of light, but there was a wild expression about the eye. The respiration was 36, and accompanied by a sort of moan or groan. The temperature was $98^{\circ}.6$. She had a bad appetite and some difficulty in swallowing. In the evening she was in the same state. Pulse 120, respiration 28, temperature 99° .

On the twelfth she had slept a good deal. Complained greatly of the pains. Pulse 120, and a little stronger. Respiration 40, and quieter. Temperature $92^{\circ}.2$.

About one o'clock, while she was being moved in bed, her whole muscular system was suddenly thrown into violent spasms. She shrieked with pain; her respiration was very noisy, being accompanied by loud mucous râles, and every third or fourth respiratory movement brought up from her stomach matter of a port wine color. She was extremely cold, and her urine was pouring from her; she was unable to swallow anything.

In the evening she was lying half on her face and half on her right side, unable to move and incapable of being moved. Pulse imperceptible. Respiration 54, and accompanied by loud mucous râles, with a sort of hiccup about every twenty seconds. Temperature, $98^{\circ}.2$. She was unable to speak or to swallow. Her pupils were slightly dilated. The extremities were cold and death-like. She died two hours afterwards.

Dr. Stokes observed that the case presented some of the symptoms of cerebro-spinal arachnitis, but there was no fever or history of fever. The disease began with local rather than essential symptoms, having commenced with disturbance of the functions of the bladder, and pains in the bones, the symptoms more especially referable to the spinal marrow having followed after a considerable interval. She never had any delirium. As far as relates to symptoms, the case somewhat resembled those of cerebro-spinal arachnitis, but as regarded its history was altogether different.

Post-mortem examination.—There was nothing remarkable found in the brain, with the exception of a considerable amount of vascularity and congestion.

When the vertebral canal was laid open, throughout its whole extent, in the

usual manner, the cervical portion of its contents presented no abnormal appearance, but throughout the dorsal region the cord had a very tumid aspect, owing to the distension of its sheath, by a copious effusion of purulent matter and lymph. In taking out the cord, more than two ounces of pus were evacuated; the substance of the cord was much softened, as was also the cauda equina.

In the abdomen, the only morbid conditions noticed were connected with the spleen. It was remarkably hard; so much so, in fact, as to give to the touch the feeling of a scirrhus tumor; its surface also was nodulated. On making a section, however, the organ was found to contain hydatid cysts, the parietes of the largest of which had undergone complete calcareous transformation. The contents consisted of a thick putty-like material, which had probably been originally of a fluid or semifluid nature, but had subsequently undergone a strumous degeneration. Professor R. W. Smith, who had examined the specimens, was disposed to adopt this view, and if it were correct it would point to the strumous origin of the morbid appearances observed in the spinal cord and its membranes.

ART. 136.—*On the Treatment of Glandular Affections.*

By E. PAGE ATKINSON, M.D., etc., late Surgeon to St. Bartholomew's Hospital, Chatham, and Royal South London Dispensary.

(*Edinburgh Medical Journal*, August.)

Acute glandular inflammation, speaking generally, and according to Dr. Atkinson's experience, requires the administration internally of the effervescing citrate of potash, and the application locally of a sedative, or the tincture of iodine. The citrate of potash and the bicarbonate (into which the citrate afterwards becomes changed) may both be described as saline febrifuges. They are alternatives, especially to the glandular system, and give activity to the secreting and excreting organs. They also influence the composition of the blood by rendering the fibrin less plastic. Citric acid by itself is said to diminish the preternatural heat of the system, and to allay thirst and irritation of the skin.

In *Quinsy* the author states that he can predict with certainty that any patient will be quite well, and able to resume his duties, on the fourth day; whereas, by the old method of treatment, the disease lasted from nine to ten days. He does not know of a single instance in which matter has formed, except prior to the time of the patient coming under his care. The prescriptions he gives are the following: 20 grains of bicarbonate of potash; 30 minims of the compound tincture of guaiacum; as much as is necessary of the compound tragacanth powder—in one ounce of water; and 15 grains of citric acid, in half an ounce of water. To be taken in a state of effervescence, three or four times daily; 25 minims of the tincture of iodine, in an ounce of water, to be used as a gargle three or four times daily; three or four glasses of port wine in the course of the twenty-four hours, and as much beef-tea as the patient can take.

The throat should be left uncovered, and poultices, steam inhalations, etc., should be particularly avoided, as also should the use of purgatives. In these cases there is generally a rheumatic tendency; and it will be found on inquiry that there has been excessive mental or bodily exertion prior to the attack.

Quinsy is not the result of cold; for if it were laryngitis would be a more frequent accompaniment than it now is. As regards the treatment, Dr. Atkinson remarks that it must be carried out in its entirety, or the results expected will not be obtained. When suppuration has already commenced, order simply the iodine gargle, the port wine and beef-tea, and omit all internal medicines.

In the case of *Inflammation of the Breast*, Dr. Atkinson says, give the following: 20 grains of bicarbonate of potash; 10 minims of spirits of nitrous ether; 10 minims of aromatic spirit of ammonia—in one ounce of water; and 15 grains of citric acid in half an ounce of water; and order to be taken, in a state of effervescence, every four hours.

Apply to the breast an ointment consisting of three parts of the extract of belladonna, and one of iodine ointment. Keep the patient up with good strong beef-tea, and if there be much fever, with a quick pulse, give port wine. The rationale of the treatment proposed is this: the effervescing citrate of potash, as stated above, acts as a febrifuge; the nitre relaxes the cutaneous vessels, and lessens the quantity of fluid which keeps flowing to the breast; while the belladonna soothes pain; and the iodine helps the absorption of the lymph which has been thrown out. Where abscess has already occurred, give 30 minims of the perchloride of mercury solution, 15 minims of spirits of chloroform, 15 minims of dilute hydrochloric acid, 60 minims of compound tincture of bark, in one ounce of water, three times daily; and paint the breast with a solution of nitrate of silver (2 grains to the ounce of water).

It has rarely been found necessary to strap the breast, except when the abscess has been very deep, and the opening has taken place on the upper surface of the breast; and even in these cases strapping rarely proves of much service.

In cases of *Inflammation of the Testis*, Dr. Atkinson orders the effervescing citrate of potash in combination with drachm doses of hyoscyamus. The testicle itself should be well supported, and kept covered with some lint dipped in a lotion of 15 minims of the tincture of opium and 15 minims of the tincture of belladonna to the ounce of water, and this again enveloped in oiled silk. This method of treatment will be found to lessen pain, and also the tendency to bubo. When the testicle becomes chronically enlarged, cover it with lint smeared over with blue ointment, and strap, and give the perchloride of mercury and bark internally. Where *Bubo* occurs by itself, give the effervescing citrate of potash and hyoscyamus internally; paint the enlarged gland with iodine, keep it covered with spongiopiline dipped in a solution of sulphate of zinc and alum (3 grains of each to the ounce of water), and enjoin rest. In both these cases stimulants should be avoided, and the patient should only take a light diet. Barley-water may be recommended as a drink. Beef-tea, of course, should be freely given. Where the *parotid* becomes inflamed, give the effervescing citrate of potash and guaiacum, paint the gland with tincture of iodine, and then, when dry, apply a linseed-meal poultice which has been made up with a warm lotion, consisting of 3 grains of alum and 3 grains sulphate of zinc, in 1 ounce of decoction of poppies. Port wine should be given according to the necessity of the case, and plenty of beef-tea. Where there is *Inflammation of the Absorbents*, Dr. Atkinson orders the effervescing citrate of potash and ammonia, and keeps the limb encased in a poultice made up as above. When there is *Suppuration*, Dr. Atkinson finds it best to prescribe 3 grains of muriate of cinchonine, 15 minims of the tincture of the perchloride of iron, and 15 minims of spirits of chloroform, in one ounce of water, three times daily; port wine or brandy according to the requirement; and beef-tea as much as can be taken.

In the case of *Scrofulous Enlargement of the Glands*, give the syrup of the iodide of iron internally, with small doses of gray-power and powdered ipecacuanha, and paint externally with tincture of iodine; and the same treatment may be applied both internally and externally where there is an ulcerated surface. The local application of iodine certainly seems to effect more good than the nitrate of silver.

Where there is *Enlargement of the Thyroid*, apply a lotion constantly, consisting of 3 grains of alum, 3 grains of sulphate of zinc, 3 grains of sulphate of iron, to the ounce of water; and give internally the following mixture: 3 grains of the bromide of potassium, 60 minims of Parrish's chemical food, 10 minims of tincture of digitalis, water to the ounce—three times daily. Pancreatic emulsion is also of use in giving nourishment to the nervous system. Underdone meat, and plenty of farinaceous food, should be also recommended.

There are two chronic diseases of the tonsil which are often overlooked—viz., fatty enlargement and adenoid disease. According to Mr. Harvey, the aurist, these are not unfrequently the cause of deafness, and it is important therefore to bear this in mind on all occasions. In the case of fatty disease of the tonsil, the patient must be put on the same line of diet as is recommended

for general obesity. Where there is *Adenoid Disease* of the tonsil, a bougie should be passed along the floor of the nostrils into the pharynx, and after this a little tannate of glycerine in water should be thrown into the pharynx from the nose. The throat should be gargled with iodine, and iodide of potassium should be taken internally.

The above is a brief outline of the treatment Dr. Atkinson has pursued for some years in the case of glandular affections. The results obtained have been satisfactory, and he hopes those who feel inclined to put upon trial what he has suggested, will not be disappointed in their expectations.

ART. 137.—*On the Removal of Nævi.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Mr. Jordan thinks he has succeeded best in the effectual and immediate removal, with a minimum of deformity, of nævi of the face, by piecemeal excision. When small, the needle-cautery is sufficient; when large, he cuts right through them, removes each half piecemeal with curved scissors and clawed forceps, and, as a rule, removes no skin. One or two points of pressure usually suffice to arrest hemorrhage during the operation.

ART. 138.—*On Professor Esmarch's Mode of Performing Bloodless Operations.*

By WILLIAM MACCORMAC, Surgeon to St. Thomas's Hospital.

(*Medical Times and Gazette*, September 20.)

The importance of the simple and efficient method briefly described by Professor Esmarch at the second Surgical Congress in Berlin, for preventing loss of blood during operations on the limbs, is so great that Mr. MacCormac takes the earliest opportunity of communicating his experience on the subject, brief though it be.

A little girl, five years old, struck the left tibia twelve months ago against a stone; necrosis followed, and when admitted to hospital a year afterwards a sequestrum could be felt in the tibia, inclosed by a considerable thickness of new bone. Whilst the patient was being chloroformed, Mr. MacCormac applied pretty tightly an ordinary elastic bandage from the toes to the middle of the thigh. The bandage was two inches wide and five yards in length, and thus applied, the bandage forced all, or nearly all, the blood from the limb into the body. When the patient was fully narcotized, a half-inch India-rubber rope was wound around the thigh immediately at the upper border of the bandage, and sufficiently tightly to obstruct all the afferent vessels. Hooks previously attached to the extremities of the rope furnished a ready means of fastening it, as well as of removing it at pleasure. The bandage first applied was now unrolled, when the limb presented a blanched appearance. The operation was then commenced; some new bone removed, so as to get at and take away a considerable-sized sequestrum. During the entire time not a single drop of blood appeared in the wound; a sponge was not once required, and the facility with which the operation was conducted and finished requires to be seen to be realized. The tissues were divided, so far as bleeding was concerned, just as they might have been on the dead body. This operation was performed in St. Thomas's Hospital on August 16th in the present year, Esmarch's method for producing local anæmia being then practised for the first time in Britain. Since the operation the little patient has progressed very favorably, and although carefully watched, no peculiarity which might be attributed to the use of the apparatus has been observed either in the wound or in the limb.

Since then other operations for necrosis have been performed, and an excision of the knee lasting thirty-five minutes, also an amputation of the thigh,

and in no instance has one single drop of blood been lost. The advantages of such a plan, Mr. MacCormac writes, are so palpable as not to need much insisting upon. The generality of hospital patients can ill spare a serious loss of blood, and such a loss often proves inevitable during operations for extensive necrosis of bone. In amputations the greater part of the blood of the lost extremity is preserved, to the advantage of the patient. The duration of operations will be much shortened, as there is neither blood nor the constant dabbing of sponges into the wound to remove it to interfere with the surgeon's sight. No accident or ill consequence at all appears to follow the use of the apparatus. In cases where amputations require to be performed for gangrene, or where there is a deposit of septic material in the limb about to be operated upon, there might be a risk of the elastic bandage forcing some portion of the septic material into the circulation. In the further use of the apparatus this possibility must be kept in view. Any one will be surprised, in trying it upon his own arm, to find what a small amount of pressure of the India-rubber rope will stop the pulsation of the radial artery, and the femoral can also be stopped with no great exercise of force. Doubtless the history of surgery abounds with many attempts to empty limbs of blood previous to amputation, and to arrest hemorrhage during their performance. Stromeyer, in 1853, as he relates in his "Maxims," adopted a plan precisely similar in principle in an operation on a brachial aneurism. He bandaged the limb to a point just above the aneurism, and then applied a tourniquet. The loss of blood was very small during the operation. Billroth mentions that when he was assistant to Von Langenbeck, in 1853 and 1854, a somewhat similar plan was tried in the clinique in Berlin. Vanzetti, of Padua, relates in the *Italian Medical Gazette* that Mr. Silvestri, in Vicenza, has employed bandaging and the India-rubber rope compression above it in amputations; but, notwithstanding, to Professor Esmarch must be attributed the credit of devising and making known a most simple, practicable, and efficient plan for wholly preventing loss of blood during operations, of whatever kind, when performed upon the extremities of the body.

ART. 139.—On Compound Fractures.

By GEORGE W. NORRIS, M.D., Surgeon to the Pennsylvania Hospital.

(*Contributions to Practical Surgery*, pp. 318, Philadelphia, 1873.)

In the essay on "Compound Fractures," Dr. Norris points out the much more serious character of those cases in which the wound is produced by external violence than of those in which the laceration of the soft parts is due to the protrusion of the broken bone:—

"In the first of these classes the wound is generally large and accompanied with great laceration, the bone being often comminuted, and the case altogether one of the most serious kind; but in the second class the external injury is mostly of small extent, and no other parts are injured than those with which the bone comes in contact—union of the wound by the first intention frequently follows, and, even if this desirable event is not obtained, it is soon covered by granulations which speedily cicatrize."

The influence on the progress of the case of the age, habits, and constitution of the patient, and of the season of the year at which the accident occurs, are duly considered, and the increased risk when the seat of fracture is near a large joint clearly pointed out:—

"In making a prognosis, too, it is of importance to consider the limb affected . . . and as a general rule it may be stated that the nearer the fracture be to the trunk the greater the risk incurred by the patient. In the country, or in private practice, the chances of saving a limb in these accidents is always greater than in large cities or in hospitals. In civil hospital practice, compound fractures of the arm and forearm generally do well; in the leg, under the same circumstances, where an attempt is judged proper to save the limb, the accident is more serious, and a number must either suffer secondary amputation or die, and in the femur the majority of adults will not survive them."

Dr. Norris believes that, with the exception of such as are produced by railway and machinery accidents, the compound fractures met with in civil life are less dangerous than those which are due to gunshot injury, and quotes with approval the saying of Dupuytren—viz., “on one point my opinion is unchangeable. In rejecting amputation in them (gunshot fractures) more lives are lost than limbs saved.” In considering what cases of compound fracture demand immediate amputation, Dr. Norris insists upon the importance of regarding the age, habits, and constitution of the patient, as well as the degree of care and attention which he can command during the course of treatment. Thus amputation might be properly performed in the case of an old, feeble, or intemperate person, or of one who was to be treated in a crowded hospital or to be transported a considerable distance from the place at which the injury was received, when the same operation would be quite unnecessary in the case of a young and healthy subject, or of one who lived in the country or who could be nursed in a pure and uncontaminated atmosphere. The local conditions which indicate amputation are stated by Dr. Norris as follows:—

“1st. Where the bone is comminuted, and the soft parts so much contused, lacerated, or destroyed as to make it evident that gangrene must follow.

“2d. Where the bone is fractured and a portion of the limb torn off by machinery, the bursting of a gun, a cannon shot, or the passage over the part of a railroad car.

“3d. Where the laceration of the soft parts around the fracture is very extensive or extending into a large joint, even though the bone be not comminuted.

“4th. Where the fracture, though accompanied with but little laceration, extends through the head of a bone into a large joint, as the knee or shoulder. [This rule is subsequently qualified by the statement that in suitable cases, at least in the shoulder, elbow, and hip, excision should be preferred to amputation.]

“5th. Where the bone is fractured in more than one point and accompanied with great laceration and contusion of the surrounding parts, or in cases where the bone is extensively exposed with the soft part separated from it, especially if the fracture be in the neighborhood of an important articulation, and has been produced by the application of direct force.

“6th. In cases where the injury is not so extensive as in the instances mentioned, but is accompanied with the division of the principal artery and nerves; for though neither the division of the vessel, the laceration, nor the fracture may alone justify the removal of the limb, yet the whole together will frequently make it necessary.”

Dr. Norris is in no degree an advocate of indiscriminate amputation, and remarks that the risk of the operation itself should be duly considered in every case:—

“Since it by no means follows, as many seem to think, where these accidents terminate fatally in our attempts to save them, that life would have been preserved had the operation been done, . . . another cogent reason for giving to the patient the benefit of even the slightest rational doubt in determining upon the question of amputation.”

These remarks of course apply rather to civil than to military practice; for in the latter, unfortunately, the exigencies of war often render it imperative to make amputation the rule and an attempt at conservation the exception.

When it is determined in a case of compound fracture to make an attempt to save the limb, the surgeon's first care should be given to the arrest of hemorrhage. If this be arterial, a tourniquet may be applied, but only temporarily, and every bleeding vessel should be carefully secured, both ends being tied if the vessel be of large size. Venous hemorrhage may be controlled by rest and position, aided if necessary by the application of cold and moderate compression. Foreign bodies, including particles of dirt, shreds of clothing, and fragments of bone which are entirely detached, are next to be searched for with the finger and carefully removed, and the fracture should then be at once reduced, not however by the sudden application of force alone, but by moderate and gradual extension, aided if necessary by enlarging the wound or removing

the protruding end of the broken bone. The latter measure, though very seldom called for, is regarded by Dr. Norris as a legitimate resource in cases in which the fracture is otherwise irreducible. Recurrence of displacement is to be prevented by placing the limb in a proper position, and by giving support "without the aid of tight bandages or great pressure."

As regards *position*, Dr. Norris expresses a decided preference, in the case of the lower extremity, for the plan of extending the limb, "inasmuch as it is easier for the patient, as well as his attendants, and permits of less disturbance of the fragments, while its results are fully equal to any that can be attained by the position of Pott, or the semi flexion of the knee with the patient on his back."

In the case of the upper extremity, Dr. Norris directs that the part should be fixed on suitable splints, and the patient kept in bed with the limb supported on a pillow till after the subsidence of fever, when he may be allowed to move about with the part sustained by a sling.

"The important requisites for treating fractures successfully are coaptation and immobility, and in my judgment it matters little what particular apparatus is employed, provided it be made to fulfil these indications, and keep the limb quiet and firm, and admit of the dressings being removed and reapplied without giving pain to the patient, or moving the fragments. The simpler the appliances the better."

When the laceration in the soft parts has been made by the protrusion of the bone, an attempt may be made to convert the case into one of simple fracture by bringing the edges of the wound together with strips of adhesive plaster, and afterwards applying a many-tailed bandage, or by adopting the old plan of imbuing a piece of lint in blood and allowing it to dry over the injured part. The lightest dressings only should be employed in warm weather, and in winter soft poultices or lint wet with tepid water. Dr. Norris's experience has not led him to look upon well-made poultices with the aversion professed towards them by many modern writers. In case of profuse suppuration, or of troublesome venous or capillary hemorrhage, the bran dressing is recommended; it is particularly useful in summer by hindering the deposit of the ova of flies, and by preventing in a great degree the odor that would otherwise arise from the wound. It may be supplemented by the addition of an ice-bag laid over the surface. Irrigation is sometimes of service in hot weather in the early stages of compound fractures which are attended with great laceration and contusion of the soft parts, but its indiscriminate use is condemned by Dr. Norris, who believes that its employment favors attacks of inflammation of the respiratory organs.

We observe with satisfaction that Dr. Norris still stands firm, and has in no degree yielded to the prevailing epidemic fondness for the starch bandage and other forms of the "immovable apparatus":—

"That this treatment," he says, "in compound fractures has been in very numerous cases followed with good effects by its introducer and his pupils, as well as by its more recent advocates, cannot be doubted; but the frequent occurrence of severe inflammation, abscesses, gangrene, and want of union, and where cures occur, the deformities seen in the hospital services in which it has been used, lead me here, as in simple fractures, to condemn its general employment. Its chief value is, I think, to be found in its adaptation to military surgery. In civil practice it is particularly objectionable when placed upon the limb immediately after the occurrence of the accident."

During the early stages of a compound fracture the dressings should be examined twice, and renewed once daily, and this, as well as changing the bedclothes and body linen, should invariably be done under the surgeon's personal supervision, and not entrusted to nurses or other unskilled attendants. In fractures of the lower extremity the weight of the bedclothes should be kept from the foot by the use of a rack or cradle, and, when the leg is the affected part, the patient's comfort may often be promoted by suspending the limb in a fracture-box or by means of a suitable splint.

The various *complications* of compound fracture are succinctly considered by Dr. Norris, the most important being rupture of a large vein, nerve, or

artery, previous disease of the bone, and concomitant luxation. Bleeding from a ruptured *vein* can usually be controlled by cold and pressure, with elevation of the injured limb; laceration of *nerves*, when amputation is not required, calls for the application of warm fomentations or poultices, with the free use of opium; rupture of a large *artery* is a most serious complication, and will often necessitate removal of the limb, though if other circumstances are favorable, an attempt may be made to save the part by tying both ends of the bleeding vessel, or if the source of hemorrhage cannot be found by securing the main trunk at a higher point. Amputation is usually necessary when a compound fracture occurs in a previously *carious* or *necrosed* bone. When *dislocation* occurs as a complication of compound fracture, every effort should be made to effect reduction before permanently putting up the broken bone.

Various secondary complications may arise during the treatment of a compound fracture. If the patient be attacked with *delirium tremens* the wound should be closed with adhesive strips and compresses of soft lint or charpie, and then the whole limb enveloped in a large and well-stuffed pillow held in place with a roller bandage. *Retention of urine* is to be guarded against by the use of the catheter; *erysipelas* to be met with suitable constitutional treatment and mild local applications; and early and free counter openings to be made to evacuate *collections of matter* in the neighborhood of the wound. The presence of *maggots* is to be avoided by attention to cleanliness and by careful dressing; when present they may be got rid of by washing the part with cold water or weak vinegar and water, or by dressing the wound with preparations of carbolic acid, or tar or creosote ointment. *Excoriations and bed-sores* may usually be prevented by careful dressing, by bathing the parts with whiskey or soap-liniment, and by relieving pressure by means of water-beds, air-cushions, soft pillows, etc., and by the application of kid spread with soap cerate. When bed-sores actually occur they must be treated as sloughing sores met with under other circumstances.

ART. 140.—*The Growth of Cicatrices from Wounds made in Early Life, and the supposed wearing out of Cicatrices.*¹

By WILLIAM ADAMS, F.R.C.S.

(*The Lancet*, November 29.)

In reference to the growth of cicatrices four casts were shown taken from the feet of the same child at an interval of six years and a half, and proved that a cicatrix on each foot had grown during that time fully an inch in length. The wound was made through an operation for the cure of club-foot when the infant was ten months old, by cutting away the loose skin which could be pinched up on the convexity of the club-foot, with a view of producing contraction by the cicatrix, to overcome the inversion of the foot. No tendons were divided. Mr. Adams afterwards cured the case when brought to him by tenotomy. The child came under treatment again six years and a half afterwards, and it was then seen that the cicatrices had each increased fully an inch in length. The next case was that of a young lady who, when a baby a year old, was operated on for a *nævus* by excision in the region of the breast. The scar left at the time was less than an inch and a half, but at nineteen years of age it was found to have increased enormously, measuring three inches in length, and varying from three-quarters of an inch to an inch and a half in width. These cases proved that when a portion of skin has been destroyed the cicatrix appears to be persistent through life, and to grow *pari passu* with the rest of the body, or rather with the portion of the body over which it may be placed. The increased size of the vaccination scars seen in the adult, as compared with the scars in children, and also the large bald patches seen on the scalp of the adult when small *nævi* had been removed in infancy, were also alluded to by the author. With regard to the supposed wearing out of some cicatrices, Mr.

¹ Read at a Meeting of the Medical Society of London, Nov. 17th.

Adams believed that the only scars which do wear out are those which result from superficial cuts, which do not penetrate through the deeper layers of the skin into the subcutaneous fat. When the deeper layers of the skin are divided, as in the lancet wounds of bleeding and in tenotomy operations, a gap is formed between the divided deeper layers of the skin, which retract in consequence of the abundance of yellow elastic fibrous tissue in its structure. Lymph is then effused in the gap, and while fibrous tissue is forming, the cicatrix structure is developed. Once formed, this appears to be a permanent structure, growing as the part grows, and we have no evidence to show that it is ever absorbed or undergoes any process of wasting. There are two reasons for this permanence of cicatrix tissue: first, that the tissue is sufficiently well organized to be able to maintain itself in the general nutrition of the body; secondly, that the cicatrix tissue is so widely different from the structure of the skin that it never can become assimilated to it, or resemble it in either the naked eye or microscopic appearances.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.*

ART. 141.—*Two Cases of Amaurosis.*

By Dr. SAMELSOHN, of Cologne.

(*Archiv für Ophthalmologie*, xviii. 2, p. 225; *Schmidt's Jahrbücher*, No. 3, 1873.)

The author reports two cases of amaurosis following excessive loss of blood. The first of these, in which there had been hæmatemesis, is of great interest, as the author records a favorable result of what has hitherto been supposed to be an incurable form of amaurosis.

A well-nourished man, now fifty-seven years of age, was affected four years ago with severe hemorrhage from the stomach, which occurred twice in three weeks. This had been preceded by severe sharp pains at the back of the head and neck, especially on the left side. The hemorrhage was accompanied by great prostration. After the second attack the patient found that he was totally blind in both eyes; the pains in the head ceased after the second attack and did not return. Nine months later vision returned and gradually improved, so that the man could go about without assistance. In this condition he came under the observation of Dr. Samelsohn, who made the following notes: Both eyes from external appearance seem quite healthy; in the left eye there is total absence of central vision with excentric fixation; the field of vision is preserved below and internally, whilst above and externally the fingers cannot be counted when held beyond a foot from the eye. On the right side central vision is only impaired, whilst at the lower portion of the field vision is quite destroyed; at the inner portion, also, the sensibility is reduced. On ophthalmoscopic examination no abnormal condition can be discovered beyond that the papilla presents a grayish-red coloration above, and externally on the left side, and over the whole of its upper half on the right side, the remaining portions in either eye being whitish. The patient was treated with iodide of potash, and a seton placed in the back of the neck. The visual defects were much relieved by this treatment, and at the end of six weeks had almost quite disappeared from the right eye. The patient, who was much satisfied with this improvement, returned at a later period, but no further change could then be made out.

A woman, aged thirty-two years, had aborted one month before, and suffered with excessive uterine hemorrhage and fainting fits. She was subsequently attacked with fever which lasted for several days, and which was associated with severe pain in the head and ear on the right side. After the fever and pains had ceased she became quite blind in the right eye. Ophthalmoscopic examination of the affected eye revealed white atrophy of the optic disk with reduced vessels, and in the retina a small ecchymosis connected with a vein.

Strychnine was administered, but without results. The author is of opinion that the very obscure loss of vision which sometimes follows hemorrhage is dependent on a serous saturation of the optic nerve. The quantity of blood in the brain being diminished through hemorrhage, the unyielding cranial capsule acts like a cupping glass on the intra-arachnoid fluid. When, subsequently, the vascular network is again filled, the fluid in the lymph-passages seeks a way out through the intra-vaginal space of the optic nerve, saturates the latter, and paralyzes it through pressure.

ART. 142.—*On the Use of Strychnia in Amaurosis.*

By J. J. CHISOLM, M.D., Professor of Ophthalmic and Aural Surgery in the University of Maryland.

(*New York Medical Journal*, February.)

Dr. Chisolm records a case which not only shows the beneficial effects of strychnine in the treatment of amaurosis, but exhibits a remarkable tolerance on the part of the patient of this potent alkaloid. The case was that of a man, aged forty, who had been under medical treatment for four years for progressive optic nerve atrophy, both eyes being equally defective. It appears that he had been in the habit of indulging freely in tobacco and whiskey, but although he afterwards abstained from both, and entered upon a long course of medical treatment, he lost rather than gained ground. When he came under Dr. Chisolm's care it was found by ophthalmoscopic examination that the retina was apparently healthy, but the optic nerve-disks were white. Although the patient stated that he had already tried strychnia, and had derived no benefit from its use, Dr. Chisolm determined to persevere in it, and bring about its stimulating effects without delay. He began with one-thirtieth of a grain of the sulphate of strychnia, but this dose was only the minimum, and as it was well borne it was increased by small additions from day to day, until the largest amount was reached which the system could tolerate; the successive increase was $\frac{1}{30}$, $\frac{1}{20}$, $\frac{1}{15}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{2}$ of a grain, and the interval of time required by the system to tolerate the largest dose, from the commencement of the treatment, covered the space of ten weeks. These doses were given three times a day, until one-tenth of a grain was reached. The constitutional effects of excitement of the nerve centres and stiffening of the leg and spine muscles were kept under control by modifying the dose, but a marked improvement in vision was manifested even within two weeks. The patient returned to his distant home, but was instructed to keep up the use of the remedy in full doses. An appreciable stimulation was daily experienced from one-half of a grain a day, continued for over five weeks, and the improvement in vision, although slow, was steady. The toleration of the alkaloid was now, however, so well established that the constitutional effects were no longer produced, and the improvement in vision seemed to be arrested, but the dose was again increased with the results of renewing the constitutional symptoms and further improving the sight. Eventually the vision was permanently improved, and in general health the patient was stronger and more vigorous than he had been for many years.

ART. 143.—*On the Treatment of the Superficial Affections of the Eye.*

By GEORGE CRITCHETT, F.R.C.S.

(*British Medical Journal*, August 30.)

The object of the paper was to endeavor to group the superficial inflammations of the eye under two primary heads, each presided over by a distinct set of nerves, and involving a distinct set of bloodvessels; also to show that each group required its own special system of treatment, which would be unsuited and even injurious to the other. A main object of the paper was an endeavor to define those cases in which astringent and caustic applications are indicated, and the converse.

The paper was followed by an animated discussion, sustained by Mr. Adams (Maidstone), Mr. de Méric, Dr. Jacob (Dublin), etc. All concurred in regarding atropine, rest, constitutional remedies, and especially pressure to the eye, as the chief and most reliable means of treatment; while opinions differed regarding the value of the setons as employed by Mr. Critchett. Mr. Adams advocated paracentesis corneæ and section of the ulcer in obstinate cases of irritable ulcer of the cornea.

ART. 144.—Conical Cornea, with Hernia at the Apex.

By F. WATERHOUSE, L.R.C.P. Lond., Bolton.

(*British Medical Journal*, August 30.)

The patient was a woman, aged forty-nine, in a low state of health. The disease was first noticed when she was in her twenty-fourth year. Sight had been failing several years; but she could read with both eyes until a few months before she came under treatment. Both corneæ were conical; and the apex of the cone of the right eye having ulcerated, a large hernia had protruded, covered with recently deposited lymph. The central portion of the iris was also pushed forward to a vertical plane some distance anterior to the margin of the cornea, as could be seen when viewed from the side. Increased vascularity, pain, photophobia, and lachrymation were the inflammatory symptoms, and were sympathetically repeated in the left eye. Lunar caustic was applied to the protruding membrane. The upper eyelid was drawn forward and pulled over the staphyloma, and secured by plaster. Pressure was insured by pads of lint, well besmeared with belladonna extract, and bandaged down. Water was allowed to soak through the bandage every day, to moisten the extract. In ten days the dressings were removed, and the hernia was found much reduced. The same treatment was again pursued, and in five days the hernia had disappeared, leaving a cicatrizing ulcer. Mr. Waterhouse pointed out, among other points of interest, the rarity of hernia in these cases, and the fact that, although the results aimed at and attained were those for which the operation of Von Graefe was devised, vision was better in the left than in the right eye.

ART. 145.—On the Linear Extraction of Cataract.

By Professor MICHEL, of Nancy.

(*Gazette Hebdomadaire*, No. 35, 1873.)

1. Linear extraction, or the making of a small flap, ought to be accepted as the general method in the operation of cataract.
2. Graefe's operation with iridectomy is not so free from risks as has been professed by German authors, and ought to be reserved for special and rare cases.

ART. 146.—Report of a Case of Sympathetic Ophthalmia—Recovery.

By HENRY POWER, F.R.C.S., M.B.

(*Royal London Ophthalmic Hospital Reports*, February.)

Mr. Henry Power relates a very interesting case of this in a delicate youth aged seventeen, and attributes the unusually fortunate result to the pupil being kept widely dilated from an early period, and to the free use of powerful tonics during the more active period of the disease. Whenever the atropia was intentionally or accidentally omitted, even for a day, so that the iris played over the capsule of the lens, an exacerbation of all the symptoms was sure to occur, a tag of adhesion was formed, pain was experienced, and the redness and watering of the eyes augmented. This was noticed over and over again. If the lymph of which such tags of adhesion consist be composed of white corpuscles,

we might imagine the course of events to be that, owing to paralysis (reflex) of the vaso-motor nerves of the vessels of the iris of the sympathetically affected eye, these are congested and dilated, and in fact in the same state as those of the conjunctiva and sclera. So long as the pupil is widely dilated, they are rendered tortuous, and a certain amount of pressure is exerted upon them; but when the pupil contracts, these vessels become straight, and their delicate walls rub against the capsule of the lens, the friction causing or facilitating the escape of the white corpuscles, which constitute the adhesion, and thus the play of the iris is interfered with at one point. The nerves are here consequently dragged upon, pain with the reflex manifestations of intolerance of light, increased lachrymation, and redness of all the vessels supplying the eye are induced, which again leads to fresh exudation, and thus the disease has a tendency to perpetuate itself.

The beneficial action of tonics, such as iron, strychnia, and quinia, is not very explicable on this view: the first constricting the walls of the smaller arteries, and thus diminishing the supply of the blood to the part; the second strengthening and giving tone to the nervous system, while the third, as Binz and others have shown, materially influences the activity of movement and the escape of the white corpuscles of the blood.

ART. 147.—On Irregularity of the Pupil in One-sided Affections of Different Regions of the Body.

By Dr. ROQUE.

(*Allgemeine Wiener Medicinische Zeitung*, No. 33, 1873.)

1. In a great number of one-sided acute or chronic affections, one may observe irregular dilatation of the pupil.
2. The greater dilatation corresponds to the side of the affection.
3. With a double-sided affection, chronic on one and acute on the other side, the more dilated pupil is on the side of the acute infection.
4. This irregularity is not always to be observed; it is constant only when the pupils are found in a dilated condition.
5. If the patient be treated by electricity the pupils undergo unequal dilatation, that on the affected side to a greater extent.

ART. 148.—On the Use of Atropine in the Treatment of Short Sight.

By THOMAS WINDSOR, F.R.C.S.

(*Liverpool and Manchester Medical and Surgical Reports*, Manchester, 1873.)

Mr. Windsor's attention was first directed to the subject by the writings of Prof. Schiess, some of whose statistics and conclusions are given. We are told, what has long been known to oculists, that most myopic eyes are diseased, which is in direct opposition to the wide-spread general opinion that near-sighted eyes are especially good to last—an opinion which the observations of ophthalmologists should entirely dissipate. Myopic elongation of the globe is very often preceded, in the experience of Messrs. Windsor and Schiess, by spasm of the ciliary muscle, which they have found can be overcome by the methodical continued use of atropia, and the elongation of the eyeball, due to strained accommodation, can thus be prevented. The conclusions arrived at are: 1. Slight myopia may be entirely due to spasm of the ciliary muscle. 2. Many cases, in which the eye is elongated, are accompanied and made worse by spasm of this muscle. 3. After some time spasm is replaced by elongation. 4. Spasm of the ciliary muscle may be removed by the methodical use of atropia. 5. Myopia may be cured in some, and its increase prevented in other cases, by this treatment.

ART. 149.—*A Case of Echinococcus in the Orbit.*

By Dr. H. SCHMIDT, of Odessa.

(Schmidt's Jahrbücher, No. 2, 1873.)

The subject of this case was a soldier, aged twenty-eight years, who six months before had been suddenly attacked with severe pain in the supra-orbital region on the left side. This pain lasted for four months, and at the end of the third, prominence of the left eyeball was observed. At the time of the patient's admission into the hospital, the integument of the left upper lid was traversed by enlarged veins, and at the inner portion could be observed a deep red and somewhat prominent spot; the lower lid was red over its whole extent. The eyeball was turned outwards and upwards, and was protruded so far forwards that its anterior surface was nineteen millimetres in advance of the root of the nose, and twenty-eight millimetres in advance of the other eye; it could not be turned downwards. The connective-tissue about the lower portion of the eyeball was red and swollen. The pupil was large and fixed, and vision destroyed. The papilla of the optic nerve was hyperæmic. The cause of the exophthalmia was considered to be a new growth, which on digital examination could be made out along the whole of the lower margin of the orbit, and also near the inner canthus as a fluctuating swelling with not very defined margins; on eversion of the lower lid there was found a distinct protrusion of the conjunctiva, the space between the eyeball and the lower margin of the orbit having been obliterated. The case was diagnosed as one of hyatid tumor, and on this supposition an incision was made through the protruded conjunctiva. Some fluid was then forcibly discharged, and between the lips of the incision was presented a vesicular body, the membranes of which were torn during its extraction. The enveloping membranes were disposed in concentric layers, and on the inner surface of one vesicle a disk was found which was covered by delicate concentric stripes. Neither scolices nor hooklets were to be found. On a subsequent and more minute examination, small secondary vesicles were found in this body. Eight days after the operation there appeared at the wound, which had hitherto discharged but little pus, the membrane of an enormous vesicle. The eyeball went back immediately after the operation, and it soon regained normal position; its movements, however, in a downward direction remained impaired. The patient partly regained the power of vision, and became able to count fingers at a distance of ten feet. Only the lower half of the field of vision remained defective.

ART. 150.—*Syphilitic Iritis.*

By C. R. DRYSDALE, M.D.

(British Medical Journal, August 30.)

The author believed that syphilitic iritis rarely occurred in adults before the fifth or sixth month after the inoculation of the poison. It was met with in about 4 or 5 per cent. of all cases of syphilitic infection. Having described the affection, he spoke of the prognosis, regarding which, he said, the practitioner should be cautious. In young adults, with very careful treatment, the prognosis was usually favorable. In double iritis, of course, it was less good; but even here, in adults under fifty, the prognosis was excellent if atropia were carefully used. In the treatment, he regarded atropia as the sheet-anchor; all other medicines, even iodide of potassium, being of very secondary importance. Atropia allayed the local sensitiveness, gave rest to the ciliary muscles, and prevented closure of the pupil. Sometimes one drop per diem was sufficient; in other cases, the application required to be made four or five times daily, according to the obstinacy with which the pupil contracted. Iodide of potassium was useful, if given in doses of ten, fifteen, or even twenty grains, daily.

ART. 151.—On Plastic Inflammation of the Tympanum.

By Dr. JOSEPH GRUBER.

(Lehrbuch der Ohrenheilkunde.)

After a description of the pathology of plastic inflammation of the tympanum, the author gives the treatment as follows :—

"We must endeavor to prevent the further development of the new-formed elements, or even to destroy them. For this purpose we possess various methods, according to the portion of the tympanum affected by the inflammation, and the condition of the ear in other respects. If the tube is chiefly involved we should seek to maintain its patency by the air-douche, or by the introduction of laminaria or other bougies; at the same time the pressure of the bougie may promote absorption. If the affection is slight in its degree, and has extended over the tympanic mucous membrane, benefit may be gained from injections of caustic potash (gr. $\frac{1}{4}$ –1 to $\frac{3}{4}$) daily, or at longer intervals; especially by these the epithelium is softened and brought to a speedier excretion, the air-douche being then brought into operation to aid the removal of the free product.

"In this form of inflammation also dilute acetic acid, used in a similar way, is sometimes useful in particular cases. Also, acetic ether, iodic ether, and vapor of hydrochlorate of ammonia, give satisfactory results, and in syphilis the vapor of weak solutions of perchloride of mercury (gr. $\frac{1}{4}$ –1 to $\frac{3}{4}$) is indicated. These solutions are to be syringed through the Eustachian tube by the catheter, or applied as spray locally by the very small catheter, which Dr. F. E. Weber recommends to be introduced completely into the tympanum."

ART. 152.—On Perforation of the Membrana Tympani.

By Dr. ALBERT BING, of Vienna.

(Allgemeine Wiener Medizinische Zeitung, No. 35, 1873.)

"The diseases of the ear which generally lead to perforation of the membrana tympani, are primary and consecutive inflammation of this membrane and also catarrhal and suppurative inflammatory processes of the middle ear which result in exudation of a morbid fluid and accumulation of the same in the tympanum.

"Whilst in the inflamed membrana tympani the solution of continuity takes place either through inflammatory softening and breaking down of the tissue, or by suppuration, the outer and the inner wall of an abscess formed in the membrane being both perforated, in accumulation of fluid in the tympanum, on the other hand, it is the pressure of this fluid which causes the perforation, the membrana itself being probably more or less sympathetically affected.

"With regard to the parts of the membrana tympani in which perforation may take place, most authorities who have specially considered this subject agree. Von Tröltsch states briefly, that 'loss of substance may affect any part of the membrana, but that it is most frequently met with in the lower and anterior portions, and when large, always in front.'

"Moos has tabulated 122 cases of perforation of the membrana tympani resulting from suppurative inflammation in the tympanum, and concludes from these that there is no part of the membrana in which perforation may not occur, but that its most frequent seat is that part of the membrana which is exposed to the draught of air which passes into the tympanum through the Eustachian tube—namely, the anterior inferior quadrant which is opposite the ostium tympanicum tube.

"Gruber, relying on the results of minute examination, has made a close distinction. In one place he states that perforation of the membrana tympani almost always takes place in the course of acute myringitis, and that, according

to his experience, it generally affects the lower half of the membrana, and the anterior as frequently as the posterior quadrant; sometimes it takes place at several spots simultaneously. In another place Gruber states that solutions of continuity in the membrana are usually found in the lower segment, and much more frequently in the anterior than in the posterior quadrant; usually on the inner third of the radius from the insertion of the malleus to the periphery.

"We see, then, from the above that in many of those cases which first come under observation when already a large portion of the membrana tympani has been removed, the destruction originated probably in the anterior inferior segment; and it seems to have been sufficiently well demonstrated that perforation of the membrana occurs most frequently in the anterior inferior quadrant, especially in those inflammatory processes in the middle ear which result in accumulation of exudation within the tympanum.

"On inquiry into the cause of this localization we find that nothing is stated beyond the mere fact, with the exception of the explanation of Moos as to the rebound of the stream of air introduced through the Eustachian tube.

"This explanation is not, in my opinion, a correct one; I may say at least that it is not the only one to account for the above-mentioned phenomenon.

"The tympanic orifice of the Eustachian tube is placed on the anterior wall, the membrana tympani forming as such the outer wall of the tympanic cavity. The air which passes into this cavity through the Eustachian tube is therefore directed past the membrana tympani, and cannot strike its anterior inferior segment with any particular force, as it would do supposing the ostium tympanicum tubæ were placed opposite this part of the membrana. As Gruber has shown in his work on tension-anomalies of the membrana tympani, one may often find an opportunity of proving in suitable cases of aural disease that air introduced by Valsalva's or Politzer's method, or by catheterism of the Eustachian tube, into a tympanum containing exudation, will render most prominent the posterior superior quadrant of the membrana. One may also observe in a subject of chronic naso-pharyngeal catarrh during sneezing, that the air driven through the Eustachian tube strikes not the anterior inferior but the posterior superior segment of the membrana tympani, which latter segment during Valsalva's proceeding may sometimes be observed to become inflamed into a kind of bladder as large as a pea.

"It seems to me that the cause of the so-frequent localization of perforations of the membrana tympani to the anterior inferior quadrant is to be found in other anatomical and physical conditions, and especially in the peculiar manner in which the membrana tympani is extended at the inner margin of the osseous auditory meatus, and in the pressure action resulting from the amount and gravity of the accumulated exudation. It is well known that in the infant the membrana tympani is placed almost horizontally, and forms, with the upper wall of the meatus, but a very slight curve. With advancing development of the cranial bones it is bent downwards towards the vertical position; but it never becomes quite vertical, but is placed obliquely not only with regard to its height, but also to its breadth, so that it forms with the lower and anterior wall of the meatus an acute, and with the upper and posterior wall an obtuse, angle. The anterior and inferior margin of the membrana tympani is furthest from, and its posterior and superior margin nearest to, the outer orifice of the meatus. A line drawn vertically from the upper pole of the membrana tympani will cut the lower wall of the meatus about six millimetres from the lower pole of the membrana. If the long axes of the two membranæ tympani be prolonged to the middle line of the body, they will form an angle of between 130° and 135° ; in adults the upper ends of the two membranæ are three inches and five lines apart, and the lower ends two inches and ten lines. The great inclination of the membranes may be conceived when it is learnt that the long axis on either side makes, with a line drawn through the intersecting point of the long axes of both membranes or through their nadirs an angle of $22\frac{1}{2}^{\circ}$.

"If a certain amount of exudation have accumulated in the tympanic cavity, pressure will be exerted on the membrana tympani. This pressure may be regarded as the result of two components, one of which, dependent on the amount of exudation, acts downwards and outwards by virtue of the above-

described condition of the anterior inferior quadrant; whilst the other, on account of the small breadth of the fundus tympani in this region, and because the membrana tympani is not a stiff but a tolerably yielding membrane, works by the force of gravity directly downwards. The membrana tympani, therefore, at this spot is pressed downwards, and tends towards the horizontal position, and by the weight of the exudation is made to form a kind of bow, whilst the other parts of the membrana have to resist but a lateral and a lighter pressure. Consequently, the membrana tympani, if it have been more or less affected in sympathy with the morbid process in the tympanic cavity, will usually undergo changes in its physiological condition through the pressure which, as it acts most forcibly on the anterior inferior segment, will cause perforation at this rather than at any other part.

"The fact that perforation generally takes place in some part lying between the handle of the malleus and the cartilaginous ring, or (according to Gruber) at the inner third of the radius carried from the malleus and the periphery, is accounted for by most authors by the diminished thickness of the elastic elements of the substantia propria at this part, but in my opinion is due to the distance of the membrana tympani at this part from its insertion, the resistance of a stretched membrane to the pressure diminishing in relation to the distance from its seat of attachment. Cases, however, have been recorded in which the solution of continuity had taken place at the extreme periphery, and close to the inner margin of the cartilaginous ring.

"I will venture to make the following concluding remarks. A tympanic cavity filled with exudation is usually regarded as an abscess, and in order to give discharge to the contained fluid paracentesis of the membrana tympani is performed. In order to afford a ready outlet to mucus or pus an incision from one and a half to two lines long is made from below upwards in the posterior inferior quadrant of the membrana. Gruber advises that this should be done, even though perforation have taken place in the anterior inferior segment, when the exudation has accumulated in the posterior portion of the tympanic cavity, and when the membrana is pressed forwards. Recently, however, Gruber, in cases where perforation existed in the anterior inferior quadrant, has, with the best results, enlarged the orifice, by making an oblique incision, instead of forming a fresh outlet behind.

"I think that this kind of incision, carried along the lower periphery of the membrana tympani, from the posterior third of the anterior and over two-thirds of the posterior inferior segment, might be generally made with advantage in paracentesis of the membrana tympani. A peripheral and oblique gap formed thus will readily allow the discharge of exudation, even when it is viscid or semi-solid; and it has this advantage, that whilst it is being made there is hardly any danger of injury to important structures, even though the operator be inexperienced and the patient somewhat unruly. In the longitudinal incision from below upwards, the knife may readily be brought into collision with the joint between the incus and stapes."

ART. 153.—*On Excision of Nasal Osteomata.*

By M. MICHEL, of Nancy.

(*Gazette Hebdomadaire*, No 25, 1873.)

1. Osteomata of the nasal fossæ may have for their seat an entire bone, as the vomer, the lachrymal, or the inferior turbinated bone.

2. One of the important stages of the operation consists in stripping away the Schneiderian mucous membrane from the whole surface of the tumor.

3. The hemorrhage which occurs on resection of a portion of spongy osteoma proceeds from the medullary tissue, which fills the cavity of the growth.

4. This hemorrhage may be readily arrested by removing the medullary tissue, and then plugging the cavities in which it was contained.

ART. 154.—*On Enlargement of the Tonsils as a Cause of Nightmare.*

By J. WARRINGTON HAWARD, F.R.C.S., Assistant-Surgeon to the Hospital for Sick Children.

(*British Medical Journal*, June 7.)

The case which first led Mr. Haward to observe the fact was a very striking one. An intelligent, and not at all nervous, girl of thirteen years had for several months been subject to occasional attacks of nightmare, which were increasing in frequency and severity. A short time, usually about an hour, after going to bed, the child arose with a loud scream, and, on the parents going into the room, was found sitting up in bed, the eyes vacantly staring, and the face wearing an expression of extreme alarm. Although the eyes were open, she did not appear to be awake, and required moving and loudly speaking to before she seemed to appreciate the presence of those around her. She would then give a sigh, say that she had been frightened, she did not know by what, and presently fall asleep again. These attacks occurred sometimes several times during the night, and for several nights in succession, and then were absent perhaps for some weeks, when they returned. She was a healthy-looking child, and had been nurtured with every care, and the parents were much distressed by these symptoms, fearing they might be premonitory of some serious cerebral affection. She had been treated without benefit by various medicines. She was brought to Mr. Haward in October, 1870, on account of an attack of stomatitis, and the parents then mentioned the occurrence of the nightmare. On examining the mouth it was noticed that the tonsils were greatly enlarged, and it seemed possible that the nightmare might depend on the obstruction to respiration thus produced, with the consequent non-aëration of the blood, and cerebral congestion. This idea was confirmed by the mother saying, that she always snored loudly, and that the attacks were generally worse when she had a cold. As soon as she had recovered from the stomatitis Mr. Haward removed a portion of the tonsils, and from that time she has never had another attack of nightmare. Since the author has seen three similar cases, all in children, in each of which, after the removal of the tonsils, no recurrence of the nightmare took place.

ART. 155.—*Melanotic Tumor developed in the Neighborhood of a Congenital Mole.*

By FRANCIS MASON, F.R.C.S.

(*British Medical Journal*, August 30.)

The patient was a man, aged sixty-four, an inmate of St. Thomas's Hospital, who had had through life a congenital mole, about the size of a small pea, on the right cheek, an inch from the angle of the mouth. A year before he came under observation he noticed a pimple in close proximity to the mole. The pimple steadily increased to the size of an orange. On admission the tumor was a soft fungating mass, from which a sanious inoffensive fluid exuded. Manipulation gave no pain. At the lower part of the tumor the congenital mole was observed isolated, and apparently distinct. Several glands in the submaxillary region were enlarged, but they were not painful to the touch. The tumor was removed by Mr. Mason by an incision around the circumference. A perfectly healthy surface was left. The edges of the wound were brought together with hare-lip pins. An attempt was made to remove the enlarged glands, but, on applying the fingers to enucleate them, the capsules burst, and it was found impossible, as important structures were involved, to remove the whole of the diseased structure. A microscopic examination of the tumor and glands confirmed the opinion as to their melanotic character.

Recovery was rapid, the patient leaving the hospital about a fortnight after the operation. Mr. Mason had learned that in July the man was in every way quite well, following his employment as a laborer. The patient's photographs before and after the operation, together with a microscopic drawing by Mr. Arnott, were exhibited.

ART. 156.—*On Stricture of the Œsophagus.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*The Lancet*, October 25.)

At a meeting of the Medical Society of London, October 20th, Dr. Richardson read a paper "On Stricture of the Œsophagus," giving a general recapitulation of his clinical experience on the subject, and detailing ten cases which had been under his care, in all of which the disease had been of a malignant character, and he had been able to trace a history of the taint; he recognized the strictures due to spasm, and dwelt briefly upon them, but believed persistent organic strictures of the Œsophagus to be malignant, and in most cases to possess the history of a cancerous taint. He described their development, diagnosis, progress, and treatment, giving very minutely the points for the differential diagnosis between stricture of the Œsophagus from organic change, from thoracic aneurism or abscess, and from tumors pressing upon the tube. His experience had shown the disease to affect both the sexes equally, usually appearing about the middle period of life, the youngest of his cases being twenty-two, the oldest fifty-five; that the constriction was most commonly situated in the middle third of the tube, and generally made painless progress until it caused obstruction to the passage of food, which symptom was frequently the first that called the patient's attention to the disease. The author dwelt upon the expression of great mental depression which was present in these cases, the whole of which progressed to a fatal termination. He said, with regard to treatment, that the use of bougie or tube for the purpose of dilatation must only be secondary to its use for the introduction of nourishment; that every attention must be paid, in the administration of food by the stomach and rectum, to the introduction of only such matters as could be absorbed by the respective mucous membranes in contact with which they were placed. He considered that dilatation in these cases was often even fatally wrong, and gave the account of one striking instance in which its attempt proved so. To facilitate the efficient introduction of nourishment into the stomach in these cases he employed a bottle constructed like Wolfe's, from which the quantum of well-warmed fluid was propelled by the action of a small bellows; the same apparatus could be used for the administration of enemata by the patients so long as they retain the requisite power. Dr. Richardson exhibited an Œsophageal tube, constructed with a central finer slightly longer tube, through which fluid might be injected into the stomach in those cases in which gases would prevent its entrance unless an opportunity were afforded for their exit at the same time. He showed a short tube which he had designed with a view of its being introduced upon a stilet till its upper end was below the glottis; it should be worn during the swallowing of a meal, subsequently to be withdrawn by a cord attached to its upper end. The inventor thought that the necessary manipulation for the use of this instrument might be acquired by a patient. When it was desirable to dilate a constriction of the Œsophagus, he considered that pressure should be applied only in a lateral direction, and not at all in a downward one. With this view he had contrived an instrument, one part of which was constructed so as to be capable of distension by the injection into it of air or water. He spoke of the bougie introduced by Mr. Durham as being the best he had met with for the Œsophagus; mentioned the importance of maintaining the warmth of the body, stating that a decreasing temperature had marked the progress of his cases, and was not unfrequently followed by rapidly fatal coma. From what he had gathered he was strongly adverse to the employment of gastrotomy in these cases.

ART. 157.—*A Method of Removing the Tongue.*

By FURNEAUX JORDAN, F.R.C.S, Surgeon to the Queen's Hospital,
Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Mr. Jordan has removed the tongue three times by a combination of steps which, he says, constitute a new operation. First, the cheek is divided backwards to the vertical ramus of the jaw, then the root of the tongue is seized by the finger and thumb of one hand, while the other passes under it a strong curved needle carrying stout cords, the cords are left in the channel made by the needle, which is withdrawn; next the chains of two *écraseurs* are drawn, one after the other through the channel by means of the cords; then one chain is tightened over the dorsum of the tongue, close to the faucal pillars, the other deeply at the floor of the mouth, and both are untied simultaneously and slowly; next, if there be any hemorrhage at all, there may be needed a touch or two of a pointed cautery or the application of the perchloride of iron; lastly, the wound of the cheek is brought together. The patient is supported by the rectum for two or three days, only a little iced water is given by the mouth. Care must be taken that the *écraseurs* are not locked—a simple matter if thought of before they are tightened.

ART. 158.—*On Tuberculous Ulceration of the Tongue.*

By Dr. PAUL HYBORD.

(*Archives Générales de Médecine*, Septembre, 1873.)

"All authors on the subject do not agree concerning the true nature of tuberculous ulceration of the tongue; some consider it as a cachectic ulceration occurring in a tuberculous patient, and analogous to the ulceration occasionally met with in the larynx or pharynx during the course of phthisis; others, with Trelat, Bourcheix, Féréol, and Verneuil, regard it as an ulceration consecutive to the deposition of veritable tubercles. The latter opinion seems to have the most support at the present day, and is based on clinical facts and histological research. As is always the case, there is a third intermediate opinion held by Julliard, who thinks that the so-called tuberculous ulcerations are of two kinds; some being cachectic ulcerations attacking a subject of a more or less advanced tuberculous disease, the others being due to softening and ulceration of true tubercles. For my own part I do not agree with Julliard, and think that one must adopt one or the other of the two former theories; I do not hesitate to say that Trelat's view ought to obtain priority, it is supported by so many well-studied facts. It cannot, indeed, be asserted that other ulcerations save those due to ulcerated lingual tubercles may not be found in the tongue of a tubercular subject, but the former variety of ulceration may be recognized by a collection of different symptoms, to which I will again return. But it is well known that the ulcers of a subject of advanced phthisis are not tuberculous. I would give to them the name of cachectic ulcerations, reserving the denomination of tuberculous ulcerations for those that are consecutive to the deposition of small softened tubercles. One may thus avoid all confusion.

"Tuberculous ulceration may be met with on any part of the surface of the tongue, but especially on the upper portion of the organ, whence it may extend to the margins or even be prolonged over the inferior surface. In some cases the tongue alone is affected; in others the neighboring organs, as the velum palati and the tonsils, simultaneously participate in the affection, and present analogous lesions.

"Multiple ulcers are very rarely met with on the tongue; when the ulcers are multiple they do not long remain so, but soon run together and form a single

ulcer. This is how the lesion is formed : there are first seen on the surface of the tongue small yellow and slightly prominent growths, which are distinctly circumscribed and each of the size of a pin's head. These growths are sometimes larger, and form small patches from one to four millimetres in diameter, of a bright yellow color, and resembling at first sight phlegmonous pus. These points and patches when examined under the microscope present all the characters of tubercular granulations. Around each deposit the mucous membrane is slightly reddened and swollen. After a period, the duration of which cannot be absolutely fixed, the epithelium covering the deposits is destroyed, the subjacent tissue is also involved in this destruction, and ulceration is then established. Many of the small deposits then unite, and one may observe then an ulcer which occupies a more or less considerable extent of the lingual surface.

" This ulceration when once established is sometimes distinct and rounded, at others presents an irregular form ; the margins, often prominent, are sometimes rounded and of a bright red color ; they never overhang, nor are they sharply cut. When the ulcer is superficial, its surface is smooth, long, covered by small granulations, each about the size of a millet seed ; but when it is deep-seated it presents a grayish coloration with a yellowish tint ; finally, the whole lesion rests upon a firm and prominent base. The tissue surrounding the ulcer is the seat of a morbid change, which, according to Trelat, should have a capital importance in diagnosis, and the more when this peculiarity is presented during the whole course of the ulcerative evolution. The red and swollen mucous membrane just around the ulcer is studded with those yellow deposits to which I have just directed attention. It is through these that the affection both commences and extends. These deposits seem to be peculiar to tuberculous ulcerations, and Trelat unhesitatingly regards them as a pathognomonic sign.

" Concurrently, analogous lesions may be observed in neighboring organs. As functional disturbances, these ulcers present nothing special ; I should, however, mention the presence of thick, viscid, and fetid mucosities which the patient discharges only after numerous and fatiguing efforts ; finally, auscultation will reveal in a great number of cases the existence of tuberculous lesions in the lungs. The latter, however, may be absent, at least at first, the lingual ulceration then constituting the earliest apparent symptoms of the tubercular diathesis.

" Such is the physiognomy of tuberculous ulceration of the tongue.

" The progress of this ulceration is slow and chronic ; the affection may remain stationary for a time, but it soon extends again. A tuberculous ulcer may possibly heal, but such an event is very rare. In one case observed by M. Verneuil, a tuberculous ulcer had closed and cicatrized, and after a treatment, lasting for two and a half months, the patient was discharged completely cured. He returned, however, with symptoms of thoracic disease, which had subsequently become much developed ; the lingual cicatrix was found to be distinct and very complete, and never broke down into renewed ulceration.

" With the knowledge which we possess at the present day, the diagnosis of tubercular ulceration of the tongue is very easy ; according to Trelat, it is owing to the presence of the yellow deposits, possible at any period. If one add the existence of characteristic lesions on the part of the lungs, the almost general absence of glandular engorgement and of any antecedent specific disease, and the presence of a non-vegetating and non-hemorrhagic ulcer, there need scarcely be any indecision in the diagnosis, or any confusion of this affection with cancerous or syphilitic ulceration. There are some cases, however, in which the diagnosis remains uncertain, and certain circumstances may complicate the affection, and mask or modify the primary lesions.

" I may take the opportunity in this place of justifying the distinction which I have established between the tuberculous ulcer, properly so-called, and the cachectic ulcers. They may, I think, be differentiated by the following characters : Cachectic ulceration occurs in individuals who have attained an advanced period of the tuberculous diathesis, a condition which is not always, necessary for the formation of the proper tuberculous ulcers ; tuberculous ulcers are generally single—cachectic ulcers multiple ; cachectic ulceration is

never accompanied by deposit of yellow growths, which is special to tuberculous ulceration; the latter presents, on histological examination, the characters of miliary tubercle; whilst the former, on the other hand, is constituted by inflamed and ulcerated lingual follicles which have not undergone any tubercular change; finally, tuberculous ulceration is susceptible of cure, though very rarely; cachectic ulceration, on the other hand, persists as long as the cause which has engendered it, and is scarcely modified by the local treatment.

"Hitherto the treatment of tuberculous ulceration has not been attended with very good results. It has consisted in cauterization with nitrate of silver, tincture of iodine, and the red-hot iron, in gargling with chlorate of potash, and finally, in the local application of chromic acid. With the exception of chromic acid, which has given unexpectedly good results in M. Verneuil's practice, these agents have produced but little amelioration."

ART. 159.—*On Resection of the Lower Jaw.*¹

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 31, 1873.)

Some years ago M. Verneuil published a memoir, in which he pointed out certain modifications in operations performed on the face. He endeavored then to guard against the penetration of blood into the respiratory and digestive passages. The presence of blood in the digestive passages causes vomiting and excites colic, and its presence in the air-passages constitutes a much greater danger. The fear of these accidents has induced some surgeons to deprive the patient of the benefits of chloroform, so that the blood, when it has been taken in, may be rejected through cough and vomiting. M. Verneuil communicated to the Academy of Medicine a memoir on preliminary plugging of the nasal fossæ, and has since practised this a great number of times. In this memoir he did not deal only with operations on the mouth and lower maxilla, but he pointed out also that the penetration of blood into the aerial and digestive passages might be avoided by combining the incisions in such a manner as not to open the buccal cavity until near the end of the operation.

Since the publication of this memoir, M. Verneuil has collected observations which permit him to recommend a modified proceeding for operations on the lower jaw. German surgeons have proposed preventive tracheotomy, with plugging of the larynx, in operations for extirpation of facial tumors. This proceeding may be regarded as objectionable. When there is a risk of much hemorrhage, preliminary deligation may be performed. To preliminary deligation of the external carotid, however, M. Verneuil's method is much to be preferred.

A male patient had a hyperostosis of the horizontal ramus of the lower jaw of fifteen years' duration. This man, who was advanced in years, had good health; the tumor extended backwards as far as the pharynx, and the tongue was much elevated and applied to the hard palate; the tumor was of double the size of the fist. The patient having been put under the influence of an anæsthetic, an incision was made along the lower margin of the jaw, from one masseter to the other. The lower lip was then dissected upwards as far as its union with the mucous membrane, and the lower flap dissected downwards without opening to the mouth; the two angles of the jaw were then exposed. M. Verneuil then introduced a cannulated sound, and perforated the mucous membrane at two spots only, in order to pass a stilet armed with a chain saw; this was applied at each angle of the jaw. In order to detach the tumor from the base of the tongue, the chain of an *écraseur* was applied by means of a curved trocar, and the superior surface of the exostosis was detached from the tongue by the same means. The tumor was now fixed merely by a portion of buccal mucous membrane, which was readily divided by scissors. During this operation but a few drops of blood had penetrated into the mouth.

¹ Communicated to the Société de Chirurgie, Paris.

M. Verneuil has since applied the same precept to other operations on the lower jaw. An external curved incision along the inferior margin of the maxilla; dissection as far as the mucous membrane; dissection of the lower flap, puncture of the mucous membrane in order to admit the passage of the chain-saw; division of the bone; precautions being taken not to open the buccal cavity, except at the end of the operation, when the mucous membrane is divided by means of scissors. M. Verneuil has made partial resections of the superior maxilla, and preserved the vellum palati. In those cases where the tumor does not involve the nostril, he practises preliminary plugging of the nasal fossæ. In total disarticulation of the superior maxilla he defers the section of the velum palati until the last stage of the operation.

M. Verneuil has practised preliminary plugging about a dozen times; the patients generally respire well, notwithstanding the chloroform; one nostril only is plugged, and care is taken to keep the patient's mouth open and the tongue protruded. Chloroform is very useful in these operations; indeed, when the patient cries out, hemorrhage becomes more considerable. M. Verneuil does not concern himself so much with the quantity of blood that is lost, as with the penetration of blood into the digestive and aërial passages.

ART. 160.—*Removal of a Cystic Bronchocele.*

By ARTHUR E. DURHAM, F.R.C.S.

(*British Medical Journal*, March 15.)

Mr. Durham gives a short notice of a case in which he removed a "cystic bronchocele" from the neck of a woman thirty-six years of age, but looking much older. The tumor had first appeared five years previously, after a blow; it had grown until it had become as large as a nut, and had remained about that size for a considerable period. About a year ago it had begun to increase very rapidly, and latterly having attained the size of a large orange, it had very seriously impeded her breathing. Various methods of treatment had been tried, but without good effect, and the health and strength of the patient were quite broken down. She was much wasted and very weak, and suffered from severe dyspnoea and some difficulty in swallowing. Under these circumstances she was admitted to Guy's Hospital, and Mr. Durham determined to attempt the removal of the tumor.

A vertical incision having been made through the skin, just on the left of the median line from over the hyoid bone to over the upper border of the sternum, two catgut ligatures were applied, one to the upper and one to the lower part of the anterior jugular vein, which ran down in the middle line over the tumor, and which was very much enlarged and distended. The fasciæ and connective tissue were next divided, layer by layer, until the tumor was reached; then by the aid of the finger and a blunt instrument, with a few occasional touches of the knife, the tumor was very readily turned out and removed. It was only loosely connected with the larynx and trachea, but had some firm, fibrous connections with each lobe of the thyroid body, especially with the left. On the right side its lower border rested in the bifurcation of the innominate artery. There was very little blood lost during the operation (not more than two or three drachms). The wound was closed by sutures, etc. When removed, the tumor measured ten inches and a half in circumference. It was found to consist of hypertrophied thyroid body structure, including numerous minute cystic dilatations, and almost entirely surrounding a large irregular cystic cavity, which contained about five ounces of fluid. This fluid was serous in character, deeply tinged by blood-coloring matter, and containing an immense quantity of cholesterine. The tumor appeared to be the whole isthmus of the thyroid body in a diseased condition. The right and left lobes of that body were seen, but appeared healthy.

Mr. Durham states that the after progress of this case was most satisfactory. The day following the operation the patient was perfectly comfortable, breathing much more freely than she had done for months previously. The improvement

in her complexion and general aspect was very striking. The wound healed by primary union, scarcely a drop of pus appearing even in the situation of the sutures. Health and strength were rapidly regained, and the patient is now well.

ART. 161.—*The Treatment of Certain Forms of Bronchocele by Injections of Iodine.*¹

By MORELL MACKENZIE, M.D.

(*British Medical Journal*, August 30.)

In a former paper the author had described in detail the various methods applicable to the several kinds of enlargement of the thyroid gland. In discussing the treatment of fibrous bronchocele in the article referred to, he did not do justice to the method recently introduced by Prof. Lücke, of Berne. A larger experience, made under more favorable conditions, had convinced him that the treatment of certain forms of bronchocele by the subcutaneous injection of iodine into the substance of the enlarged gland was of the greatest value. The following was the plan of treatment which, in accordance with Dr. Lücke's recommendation, the author had employed. Thirty drops of the officinal tincture of iodine were injected into the substance of the gland once a week for the first two or three weeks, and afterwards once a fortnight, as long as was necessary. It was well to give iodide of potassium internally at the same time; but no medicine was given to any of the patients whose cases were now related. The advantages of the treatment were, that it did not cause any constitutional disturbance or local irritation (suppuration). In this respect, it was preferable to treatment by setons and caustic darts. The only disadvantage of the method was its slowness; this, however, could scarcely be considered a drawback, except when the enlarged gland caused dyspnoea. The cases which were briefly related had been taken indiscriminately as they presented themselves, or were found in the case-book of the Throat Hospital on July 24th. Of the sixteen cases, fourteen were fibrous, and two adenoid, or soft. Fourteen patients were females and two males. Eleven were completely cured, in four a considerable reduction resulted, and one case completely resisted treatment. In one case the neck was reduced by 3½ inches in less than six months; in two cases a reduction of 2½ inches took place. The duration of treatment varied from one to eight months, the average being four months. The author concluded by remarking that the treatment of cystic cases by injections of iron, as previously recommended by him, was, of course, much more rapid, and therefore more striking; but the fibrous cases were undoubtedly the most difficult to treat of those varieties met with in practice.

In reply to questions by Mr. Berkeley Hill, Mr. Hey (Leeds) and Mr. Meade (Bradford), Dr. Mackenzie added that suppuration had not occurred in any case where the injection had been made into the gland itself. The failures of the treatment were five per cent. Mr. Meade's treatment by division of the fascia in the central line, where symptoms of dyspnoea indicated mechanical pressure, had been found successful in alleviating this.

ART. 162.—*On Ligature of the Common Carotid in Rupture of the Middle Meningeal Artery.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

There is a kind of compression of the brain, Mr. Jordan writes, which, though not common, occurs from time to time. A severe injury to the head is attended

¹ Read at the Forty-first annual Meeting of the British Medical Association.

with concussion, and then subsides, but in a few hours, with reaction, signs of paralysis set in, and slowly and gradually proceed to a fatal issue. We know not only that the middle meningeal artery is ruptured, but also which. When the opportunity occurs, the diagnosis clear, and the surgeon at hand, Mr. Jordan thinks a ligature to the common carotid might avert an otherwise certainly fatal issue.

(B) CONCERNING THE TRUNK.

ART. 163.—*On the Operative Treatment of Stricture of the Urethra.*

By THOMAS ANNANDALE.

(*Edinburgh Medical Journal*, August.)

At a meeting of the Medico-Chiurgical Society of Edinburgh, 2d April, Mr. Annandale read a paper "On the Operative Treatment of Stricture of the Urethra." He pointed out the value of quinine in checking rigors, given in doses from five to twenty grains. He divided permanent stricture into three varieties:—

1. Simple organic uncomplicated.
2. Organic stricture with constant or constantly recurring spasm.
3. Complicated by (1) complete retention, unrelievable by catheter; (2) obliteration of urethra; (3) urinary infiltration and abscess and fistula; (4) calculus in bladder or urethra.

Operative procedures were divisible into—

A. Dilatation.

B. Splitting or rupturing.

C. Internal division.

D. External division.

Simple uncomplicated stricture was best treated by gradual dilatation—rapid dilatation not being so satisfactory. Metallic instruments were better than softer instruments. A fine whalebone instrument was more useful, on account of its rigidity, than gum-elastic bougies. Splitting or rupturing were not advisable in this form of stricture, because, in his opinion, recontraction followed more rapidly than after gradual dilatation. Internal and external division were not necessary in simple uncomplicated stricture.

In organic stricture with spasm, Mr. Syme at one time frequently employed external division. Holt's and Thomson's methods were both good, but the author recommended internal division on account of the immediate good result, and the complete disappearance of the spasm. He had operated on six cases. Five had been completely successful; the sixth died. In the fatal case, the patient, on admission, had frequent rigors, which he attributed to ague, from which he had suffered in Canada. The patient died six days after the operation. The post-mortem revealed old-standing suppuration in the region of the prostate, and numerous false passages. There was a superficial clean cut into the stricture. The patient died of pyæmia, which he did not think was altogether due to the operation.

Mr. Annandale showed various instruments used for internal division. He recommended an instrument which he had obtained from New York (Dr. Gourlay's), which resembled the instrument recommended by Maisonneuve. An elastic guide is first passed through the stricture. A grooved staff is then passed, along which a triangular knife is directed, which cuts both from before backwards and from behind forwards, freely dividing the stricture. A silver catheter is then tied in for twenty-four hours, and a No. 12 bougie is passed occasionally afterwards. In all the cases the stricture was posterior: in none had he met with hemorrhage or infiltration of urine.

In the worst forms of organic strictures with complications, Mr. Syme's plan of external division was necessary, or a No. 10 bougie might be passed down to the stricture as a guide, and the urethra opened, the stricture searched for, a fine grooved staff passed from the opening into the bladder, on which the stricture could be freely divided.

Dr. Bell highly approved of Mr. Syme's operation. He did not approve of internal division; it was, pathologically, a bad operation. He believed in vital dilatation and external division. Internal division was unphilosophical and unsatisfactory.

Mr. Annandale, in reply, stated that no plan of cure was permanent. The relief of spasm after internal division was analogous to the relief of spasm of the sphincter ani after division of a few fibres of the muscle. He had seen internal division followed by results which he had never observed followed any other plan of treatment. He had ample experience of all plans of treatment.

ART. 164.—*Ice as a Remedy in Stricture.*

By M. CAZENAVE.

(*Gazette des Hôpitaux*, No. 64, 1873.)

M. Cazenave recommends the use of ice in cases of retention of urine from stricture, or from enlarged prostate, and even as a mode of treating the accidents which may follow lithotomy and lithotripsy. He introduces a piece of ice of an elongated oval shape, and as large as a chestnut, within the anal sphincter, and renews it every hour. He claims for this mode of treatment the advantage of soothing pain, relieving spasms, subduing inflammation, rendering the passing of urine more easy, and thus giving the surgeon time to treat the patient by constitutional means, and prevent him from having recourse to catheterism or urethrotomy at a time when the parts are inflamed, and in a state liable to further mischief.

ART. 165.—*Retention of Urine with Dribbling, from Impassable Stricture successfully treated by Leeching and Filiform Whalebone Bougies.*

(Under the care of Mr. TEEVAN at the West London Hospital.)

(*The Lancet*, September 27.)

The following case serves to illustrate the good that may be done by patient perseverance in the treatment of even the smallest strictures of the urethra; and it also affords, as Mr. Teevan has pointed out, valuable evidence of the respective merits of the metal and the flexible instrument. After the use of the former there were always severe rigors, but only once after the use of the latter. Doubtless, the great exciting cause of the rigors in this patient was the fact that he had previously suffered from intermittent fever, which generally alters in some way the stability of the general system, all subsequent affections partaking more or less of the characters of ague.

A. B—, a muscular but delicate-looking sailor, aged twenty-six, was put under Mr. Teevan's care, at the West London Hospital, by Dr. Atwood, on May 22d. The patient stated that eight years ago he first contracted gonorrhœa, and that he never got rid of the subsequent gleet. Six years ago, whilst ashore, he had an attack of retention of urine, after drinking, which was relieved by the catheter; and shortly afterwards he had a similar attack. Three years ago he noticed that the stream of urine was much diminished in size, and that the act of micturition was only accomplished after much difficulty. Two years back the urine commenced to dribble away, *guttatim*, night and day, so that he was obliged to discontinue wearing white trousers. Has suffered much from yellow fever and ague whilst serving on the West Coast of Africa and in South America. At the present time the patient is unable to empty his bladder, the urine dribbling away continually and saturating his clothes.

May 27th.—As Mr. Teevan had failed, after repeated attempts, to introduce any instrument into the bladder, four leeches were put on the patient's perineum and allowed to bleed freely. The same night the patient had an attack of rigors, which was followed by another the next afternoon, both caused by the previous instrumentation.

29th.—10 A. M.: This morning Mr. Teevan succeeded in introducing one of the finest filiform whalebone bougies into the bladder, and left it in for thirty-six hours. Its presence gave rise to no inconvenience.

June 2d.—A No. 5 (French gauge) olivary whalebone bougie was introduced at 9 A. M., and kept in for twenty-four hours.

On the next day, a No. 7 elastic bougie olivaire was passed but not left in. The patient has begun to pass a fine stream occasionally, and the dribbling is much less.

4th.—A No. 9 elastic conical bougie was passed, and left in for an hour.

9th.—The patient is now free from dribbling. The same instrument was passed to-day as on the last occasion.

11th.—Nos. 3, 4, and 5 English metal catheters were passed with ease; much blood came away afterwards, and rigors came on at night.

14th.—No. 6 English metal catheter would not pass. There was much bleeding some hours after, and at night the patient had an attack of rigors.

25th.—No. 6 English metal catheter passed easily.

On the 28th No. 15 French olivary bougie was passed, but on the 30th the corresponding size in metal would not pass, and was followed by an attack of rigors the same evening.

July 5th.—No. 15 French olivary catheter was kept in for twenty-four hours, and was followed the next day by a slight attack of rigors.

9th.—Nos. 16, 17, and 18 French olivary catheters were passed.

12th.—No. 18 ditto passed.

The patient was now taught to use the instrument himself, and he left the hospital quite well on July 21st.

Mr. Teevan remarked that there were few strictures, however severe, which would not yield to a combined assault with leeches and filiform whalebone bougies, and they could be employed on the most diseased subjects without the slightest fear. They would also, as a rule, obviate any recourse to operative procedures. Rest and warmth would often do much for a severe stricture, but if the surgeon trusted to them alone he would usually be doomed to disappointment. When treating in-patients he combined continuous with gradual dilatation, in order to expedite the cure. As the patient had served in tropical climates, and had recently suffered from ague and yellow fever, he was peculiarly liable to experience rigors from the manipulation of instruments, and consequently his case was well adapted to illustrate the comparative merits of metal and elastic instruments. Rigors were almost unknown after the use of the latter, but they were by no means rare after the former. This case proved no exception to the rule, for rigors usually followed the introduction of the metal catheter, but on one occasion only did any shivering ensue after the passage of an elastic instrument.

ART. 166.—*A New Urethrotome for Incising very Narrow Strictures.*

By **BERKELEY HILL, F.R.C.S.**

(*British Medical Journal*, August 30.)

The instrument, constructed by Coxeter, consisted of a slender sound, less in diameter than No. 2 catheter, grooved along its stem. The groove, deep for six inches of its length, gradually became shallow, so as to turn out a knife attached to a rod passed along the groove. By this means a cutting edge was made to project for half an inch or less, if necessary against the floor of the urethra. By drawing the whole instrument forwards the keen edge was brought against the stricture, and cut it through from behind forwards; the knife then returned to the groove, and the instrument could be harmlessly removed from the urethra. A subsidiary adaptation of the instrument rendered it capable of being guided through extremely narrow strictures, and also of showing exactly the position and extent of the contraction to be overcome.

ART. 167.—*On the Restoration of Perineum and Sphincter Ani ruptured during Labor.*

By T. P. TEALE, M.B., F.R.C.S., Leeds.

(*British Medical Journal*, August 30.)

In this paper Mr. Teale described the mode of operation which he has found the most satisfactory. His chief efforts aim at giving solidity to the newly made perineum. This he attains partly by making the raw lateral surfaces, which are to be brought together by the quilled sutures, broad towards the rectum, and chiefly by dissecting up the vaginal membrane, which rests on the rectum as a triangular flap, with its blunt apex forwards and its attached base backwards. This raised flap is kept in apposition with the vaginal edges of the apposed lateral raw surfaces by means of the stitches of the quilled suture.

ART. 168.—*On Warts.*

By S. M. BRADLEY, F.R.C.S., Manchester.

(*British Medical Journal*, August 30.)

In this paper the attempt was made to establish the essential oneness in origin of all morbid growths characterized by the abnormal development of epithelial elements, such, *e.g.*, as schirrhus, epithelium, epulis, and common warts. The author stated that the simplest of these tumors may involve the more complex by the agency of external forces, such as irritation, pressure, etc. (the influence of heredity is probably always great in determining the exact nature of the morbid product); and that the power and rate of infiltration and invasion of the general system are due to simple laws, such as the size and shape of the cells, their degree of moisture, and the nature of the surrounding tissues. He maintained that as electricity, by coagulating the albumen of a part, establishes a barrier to the onward march of the cell elements, it should, therefore, be employed in all cases of infiltrating tumors when it is decided to eradicate the growth.

ART. 169.—*Case of Double Ventral Hernia.*

By E. WOAKES, M.D., Luton.

(*British Medical Journal*, August 30.)

The case occurred in a man aged sixty-one, the herniæ making their appearance about two inches above the umbilicus, and on each side of the median line, during recovery from an attack of ascites. When seen the tumor of the right side was strangulated, irreducible, and the symptoms urgent. He was operated upon under chloroform, and progressed without a bad symptom till the fifth day, when, in the effort of defecation, the left hernia became strangulated. His condition becoming rapidly threatening, taxis after ice proving abortive, he was operated on a second time under chloroform. Severe peritonitis occurred, but he ultimately recovered, his condition being for several days precarious.

ART. 170.—*Radical Cure of Rupture.*

By JOHN WOOD, F.R.S., F.R.C.S., Professor of Surgery in King's College, London.

(*British Medical Journal*, August 9.)

Professor John Wood, in his address on surgery, remarked, "I have long thought that we might, in favorable cases, safely do more than we now attempt,

to prevent a return of the protrusion after the operation for the relief of strangulation. After performing operations for the radical cure more than two hundred times, I had grounds for the belief (which other operations on the peritoneum also favored) that in a healthy subject the peritoneum might be dealt with as freely and as safely as any other tissue; and also that the chances of bad results from peritonitis would depend upon the injury sustained by the bowel in strangulation, rather than upon any way of dealing with the peritoneal sac and parietes after the strangulation had been relieved, provided that due drainage be secured. In cases where the bowel and omentum are congested only, and most likely to recover when placed into their natural cavity, especially in young and healthy subjects, I concluded that the attempt would be justified, and would probably be successful. If so the advantage of preventing a lifelong trouble by the operation which relieves strangulation is obvious."

In answer to the objection made to his operation that evidence is wanting as to the permanency of the cure, he states: "Out of 188, most of them unselected cases of inguinal hernia, of which I have notes (including 7 females and 4 cases of double rupture, both operated on), in 107 cases the results are pretty perfectly known. I find that 51 of these were more or less unsuccessful; 42 returned in the first year after operation; that is, the patient could not do without wearing a truss after the first year. Of these by far the greater number were so much improved that they were made comfortable by a truss, which was not the case in most instances before the operation. Some, but not many, were as bad as before the operation. Mr. Kingdon, of the City of London Truss Society, has kindly forwarded to me the names of twelve of those who had applied to that institution for the supply of a truss after an operation at my hands.

"Fifty-six out of the 107 were cases which continued to be successful subsequently to a year after the operation, as ascertained either by direct examination by myself, other surgeons, or satisfactory to the patient himself, and either wearing no truss at all, or only occasionally, as a precaution, after the first year from the operation. Of these 7 were noted from thirteen to twenty-one months after the operation; 7 two years, 7 three years, 7 from four to six years, 7 from six to eight years, and 4 from nine to eleven years after operation. Reckoning operations on both sides and repetitions of the operations I have done the operation more than two hundred times. Out of these I have had three deaths, one from pyæmia, one from erysipelas, and one from peritonitis. These have been made public to the profession on more than one occasion, because I judged it right and fair that in an operation of this kind the facts should be made known as far as possible. In the last case, as shown by the post-mortem examination (published in the *Medical Times and Gazette* in 1866), the peritonitis was found not to have originated in the parts operated on, but in a knuckle of bowel which had been lodged in the hernial sac before the operation, while the patient was wearing a strong truss. The cases in which any signs of peritonitis were observed were not more than about twenty in the whole number. One and a half per cent. is not a high average of deaths from surgical accidents, and there are very few operations of like kind, as, for example, for the removal of deformity, the cure of prolapsus of viscera, or of hæmorrhoids, which could show more favorably either in this respect or in respect to the somewhat severe test of the length of time in which they have been known to be without a relapse after the operation. And since 42 out of the 51 known unsuccessful cases proved to be so within the first year after operation, and most cases were examined once or more at various intervals of time after the operation, I think that, in respect to this point, we have a right to claim the probability of more and the certainty of at least as many good results for the 81 of which I have not been able to get notes after the first twelve months, as for the 107 in which I have done so. Under the age of twenty-one years the results in known cases are much more satisfactory. But of dry statistics you will think that I have given you, perhaps, more than enough.

"The determination of the question as to whether the operation for the radical cure is an appropriate alternative to a life-long wearing of a truss, and

a valuable supplement to the slow and very uncertain cure by truss pressure, will continue to depend on the age, habits, circumstances, mode of life, and to some extent, the cruel experience of trusses and wish of the patient after having the matter fairly put before him, and perhaps, nearly as much, upon the anatomical knowledge, skill, energy, and experience of the surgeon, or his disposition to that finality frame of mind to which I have alluded. In any case, whether universally or only occasionally resorted to, it forms, I think, a valuable addition to the resources of surgery."

ART. 171.—Case of Retention, followed by Suppression of Urine, lasting Seven Days—Recovery.

By S. T. KNAGGS, M.D.

(*Dublin Journal of Medical Science*, July.)

The author relates a case of the above, and remarks: "This case is remarkable from the fact that the patient, a broken-down, debilitated subject, survived seven days without passing a drop of water from his urinary bladder, and ultimately recovered. It possesses a further interest from the fact that nature came to the rescue of the physician, and indicated a rational procedure in the treatment. The gastro-intestinal tract and the skin took on vicarious action, as was indicated by the copious watery vomitings and profuse perspirations exhaling a peculiar urinous odor. These organs (stomach, intestines, and skin) voluntarily gave their assistance to the kidneys, and performed their functions, while their (the kidneys') portals were stopped, and thus relieved the blood of urea and such effete products as would have accumulated in the system, and have literally poisoned the patient."

ART. 172.—Reduction of Large Herniæ by Means of India-rubber Bands.

By JOHN DUNCAN, Assistant-Surgeon, Royal Infirmary.

(*Edinburgh Medical Journal*, November.)

Several years ago Mr. Duncan heard M. Maisonneuve, in his clinical lectures, referring to the treatment of large herniæ, suggest a method of reducing them which he thinks worthy of notice. When a hernia of large size is incarcerated or strangulated it becomes a difficult matter to apply the pressure necessary for its reduction. Plainly the force applied should, if possible, be of such a character that the pressure can be steadily maintained, and must be so adjusted that equal support is given to every portion of the tumor. With the unaided hands this is impossible. One hand must be applied to the neck of the hernia, and under such conditions the other is not large enough to encircle the tumor. The force used is consequently unequal at different points, and therefore dangerous and ineffectual. By means of an India-rubber bandage these indications of treatment may be fulfilled. A turn or two of the bandage is first made pretty firmly round the neck of the sac, and then layers of the bandage are placed in succession over the surface. Care should be taken that the first layer be lightly laid on, so that until the whole surface of the swelling is covered, the tension of the band may be very slight, but after the first layer one or two others may be applied with a firmer hand. In this way only can complete equality of pressure be attained in every part.

Mr. Duncan had recently an opportunity of using this bandage with good effect.

The patient was an elderly gentleman with a large scrotal hernia. His mental condition (one of restless dementia) was such that no truss could be got to command persistently the large orifice. The bowel escaped from the abdomen perpetually. As the orifice was very large, and the danger of strangulation consequently slight, a scrotal bag was deemed the form of apparatus best suited to the case. The bowel was usually returned with great ease when the patient lay down. Once or twice, however, it was not so—the tumor got tense and

tender, and pain in the abdomen and vomiting supervened. These attacks would pass off in forty-eight hours if the patient were kept in the recumbent posture. On one of these occasions, when the duration and severity of the illness were greater than usual, Mr. Duncan was called to see him; he found the hernia, which he failed to reduce, as large as a child's head, and very tense. An ordinary elastic bandage was then procured, and, using it in the way he mentioned, the bowel was easily returned.

This method of reduction is, Mr. Duncan states, of course applicable only to large herniæ.

ART. 173.—On the Pathological Anatomy of Hydrocele.¹

By M. LANNELONGUE.

(*Gazette Hebdomadaire*, No. 33, 1873.)

In simple hydrocele of the vaginal cavity, the relations of the epididymis with the testicle become modified; the former is removed from the gland and placed above it, and is also elongated and spread out on the surface of the tumor. When effusion has taken place into the tunica vaginalis, the two layers of the serous membrane are no longer in contact; the cavity can increase at the expense of only the parietal layer, which is stretched along its whole extent; the testicle is fixed at one spot, whilst the epididymis becomes more mobile and floats in the vaginal cavity. If the effusion increase, the epididymis is still further separated from the testicle, and the relations of its surfaces undergo change, the anterior margin becoming a surface and the surfaces becoming margins. The middle portion of the epididymis approaches nearer and nearer to the parietal layer of the serous membrane, but the head and tail are more closely applied to the testicle. At the level of the head the serous membrane is spread forwards, and there remains only the vas deferens to unite the two organs. At a later period the lobes are unrolled, the tail remaining in its place, and the head becoming more and more isolated. M. Lannelongue made these observations on five hydroceles, each of about the size of the fist; the ages of the patients were forty-five, fifty, sixty, seventy, and seventy-four years. He has since made an examination of eighteen hydroceles.

What is the condition of the spermatic function in the subjects of hydrocele? In the five subjects first examined by M. Lannelongue, no spermatozoa were found either in the vesiculæ seminales or in the epididymis, and yet the testicle itself seemed healthy. In 1856 M. Duplay stated that he had not found any spermatozoa in any of five specimens of hydrocele examined by himself, but he did not note the size of the hydroceles. In 1867 M. Dieu could not find any spermatozoa in the corresponding vesicula seminales in any one of five cases of large and old hydroceles. M. Liegeois has published four observations made on two living subjects, one aged fifty-one and the other sixty years. One of these subjects had two hydroceles, each of the size of a goose's egg; the other also two hydroceles, each of the size of a hen's egg: in neither of these cases could any spermatozoa be found in the seminal fluid. In a third subject, who had epididymitis on one side and a hydrocele on the other, from 5 to 20, instead of from 150 to 200, spermatozoa were found. M. Roubaud has reported the history of an individual who had two hydroceles, but no spermatozoa. After the hydrocele had been tapped the spermatozoa returned, but they again disappeared from the seminal fluid on the refilling of the vaginal sac.

Small hydroceles do not cause the complete suppression of spermatozoa; but these corpuscles become modified and undergo changes in the seminal passages. This fact was pointed out by M. Duplay twenty years ago. In twenty-seven cases in which spermatozoa were observed in the vesiculæ seminales of individuals affected with hydrocele, some of these spermatozoa were found without heads and others without tails, and it was concluded by M. Duplay that these were imperfectly developed. This was an error of interpretation, owing

¹ Communicated to the Société de Chirurgie.

to the fact that M. Duplay had examined only the fluid in the vesiculæ seminales. The change in the spermatozoa is a retrogressive one, and may be observed in the epididymis. Protein granulations frequently form at the union of the head and tail, whence results the separation of these two parts of the spermatozoon, which parts in their turn undergo change.

From these observations the practical conclusion may be drawn that treatment should be applied early, in order to prevent impairment of the spermatric functions.

ART. 174.—On the Real Causes of the Apparent Shortening and Elongation in Coxalgia.¹

By Professor VERNEUIL.

(*Gazette Hebdomadaire*, No. 36, 1873.)

In the deformity which generally accompanies coxalgia, it is necessary to distinguish femoral deviation and pelvic, although in the majority of cases the two are associated. Of apparent deformity there are two forms: apparent elongation of the limb with abduction, external rotation, backward projection of the antero-superior iliac spine, and sinking of the pelvis; apparent shortening with abduction, inward rotation, projection forwards of the superior iliac spine, and elevation of the pelvis. What is the cause which, at a given moment, may cause a change of one type for the other? Why will a patient, who at first presented elongation (apparent), present at a later period an apparent shortening? Martin and Collineau have explained this by the statement that if the affection be seated in the soft parts there will be elongation, but that, on the other hand, if the articulation be affected, there will be shortening. Bonnet and Valette attributed it to the faulty position of the patient in bed; this explanation is true as to the commencement of the deformity, as by a change of position it may be corrected, but it is not sufficient to explain the deformity at a more advanced period.

The unique cause is due to a rotatory movement of the pelvis, which movement is caused by contraction of the quadratus lumborum and spinal muscles. Hence, according as the contraction takes place on the same side as the articular affection, or on the opposite side, there will be elongation or shortening.

What is the cause of this contraction? Professor Verneuil offers no hypothesis on this subject. But when acquainted with the indirect cause of the deformity, one may then remedy it more efficaciously by placing the patient on the back or belly, and by resting the knee on a convex region—that is to say, on the side opposed to the contraction, and by manipulations made in seizing the shoulders and pelvis of the patient, the lateral distortion, and consequently the contraction may be removed. The application of a bandage after these manœuvres will then be really efficacious, and will establish the normal position without fear of relapse.

ART. 175.—On the Diagnosis of Scrotal Tumors.

By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Practice of Surgery*. A Manual, pp. 1088, London, 1872.)

We quote the following passage as an example of the practical method with which Mr. Bryant deals with a subject:—

"I propose now to consider the subject of diagnosis of scrotal tumors as a whole, to describe the train of thought as it passes through the surgeon's mind in his attempt to diagnose a tumor of the testis, and to point out the special symptoms, or their combination, as they tend to indicate the presence of any special affection. Fully recognizing the great difficulty so frequently experienced

¹ Communicated to the Association Française pour l'Avancement des Sciences, at Lyons.

in forming a positive opinion as to the nature of a scrotal tumor, I believe that a near approximation to truth may generally be made when the history of the case and its special symptoms are carefully weighed; and I am not disposed to place amongst the impossible the diagnosis of a scrotal tumor, because occasionally great difficulty may be experienced, or it may be beyond our power to form any positive opinion upon the point. There are gradations of probability in all our conclusions as to the diagnosis of any disease; a certainty, untainted by fallacy or doubt, is rarely obtained; and I take it, we are as often correct in our judgment of a scrotal tumor as we are of any other affection.

"The first point the surgeon has to decide, on being consulted as to the nature of a scrotal tumor, has reference to the question of hernia. Is the tumor connected with the testicle? or has it passed down the direction of the cord from the abdominal cavity? Should the surgeon be able to isolate the growth at its neck from the abdominal cavity by the thumb and finger, the question is at once decided, for almost all scrotal tumors can be so isolated, it being quite exceptional for any to pass up the cord so far as the internal ring. Rare cases of vaginal hydrocele, or hæmatocele, in which the tunica vaginalis is open up to the internal ring, form an exception.

"This important preliminary point having been decided, the nature of the growth claims our attention next.

"Is it a hydrocele or a hæmatocele? Is it the product of inflammation or of tubercular disease? Is it a new growth altogether, and if so, is it innocent in its nature or malignant?

"Should the tumor prove translucent by transmitted light, the existence of a hydrocele may fairly be decided, although the form of this affection may yet be doubtful. Is it an ordinary vaginal hydrocele, or is it encysted? Should the tumor be large, even, and pyriform, and should the testis be found, either by means of manipulation or by the opacity displayed at one spot on transmitting light—at the posterior part of the tumor—vaginal hydrocele may be suspected; but should the testis exist in front or at one side, and should the tumor be small and have been of very slow growth, and should it be more or less globular or evidently multilocular, a cystic hydrocele may probably be diagnosed. The tapping of the tumor will, however, settle the diagnosis; for in vaginal hydrocele the fluid will be more or less straw-colored and albuminous; in the encysted it will be thin, non-albuminous, pale, and probably opalescent, containing on microscopical examination granules and spermatozoa.

"The presence of hydrocele is thus readily decided in the majority of cases, but in rare or old instances the tumor is at times opaque, thus complicating the diagnosis. The history of these cases will, however, tend to throw much light upon the point, for it will to a certainty reveal a disease of very long standing; the tumor will be probably painless and fluctuating, and the testis will be made out in its usual position at the posterior part of the sac. Should a doubt exist, a puncture with an exploring trocar and canula will decide the question, for in these cases fluid will be drawn off of a dark color, loaded with cholesterine.

"We will now pass on to the consideration of tumors which are not translucent, and not hydrocele, and it is here that the surgeon experiences true difficulty in his diagnosis, for almost all the diseases of the testis are insidious in their growth, and most are painless in their development. The hæmatocele usually follows upon some strain or injury, and increases with tolerable rapidity up to a certain point, and is accompanied with pain which soon subsides; it then becomes stationary as to size, and remains torpid for a variable period, when pain again appears, with other signs of inflammation. The presence of the testis is also to be made out by manipulation towards the posterior part of the organ. The surface of the tumor is always smooth, more or less oval or pyriform, and semi-elastic or fluctuating.

"The inflammatory affections of the testis have a peculiar shape, being laterally flattened; they are usually accompanied at some period of their course with tenderness and pain, and often associated with fluid in the tunica vaginalis. In the syphilitic inflammation this fluid is often copious. Both organs are also generally involved, either together or at different times. The tumor is usually

somewhat tender to the touch, and has a firm fibrous feel, unlike the semi-elastic and half-fluctuating sensations given by cystic or carcinomatous disease. In very chronic cases the testis may, however, be perfectly painless, and will allow of any amount of manipulation without distress; the natural testicular sensation will also have disappeared. In syphilitic disease the surface of the tumor will probably be irregular, with firm fibrous outgrowths in different parts and in the tunica albuginea.

"In the tubercular affection of the epididymis or testis there should not be any difficulty in the diagnosis, for the tubercular deposit, as a rule, takes place unaccompanied with any pain, or any symptom beyond that produced by its deposition. When deposited in masses—its usual form—it feels like some foreign body introduced into the body of the gland or of the epididymis; it is at first quite painless and unproductive of any symptoms, these only appearing when the material begins to soften down, and excite some inflammatory action in the parts around. The tubercular material may be deposited in one mass or more masses, these subsequently, perhaps, coalescing into an irregular induration. When suppuration takes place, the diagnosis is complete.

"The cystic or simple tumors of the testis are painless from the beginning, painless during their growth, as well as on manipulation, and are to be recognized by purely negative symptoms. They attract the patient's observation only from their size; can be handled without exciting pain, and are usually free from even the natural sensation of the organ upon pressure. They are slow in their progress, uniform in their outline, and more or less globular; are always confined to one gland; are rarely accompanied with fluid in the tunica vaginalis; and, on being punctured, emit only a more or less blood-stained glairy mucus.

"The cancerous tumors of the organ are more rapid in their development than the cystic—a year's growth, as a rule, giving a large tumor; they are likewise painless, and readily allow of free manipulation. The natural sensation of the organ also soon disappears. They are unaccompanied with a hydrocele, and also involve only one organ. They have a more elastic and fluctuating feel than the cystic, and the inflammatory enlargements, and when their outline is unequal or bossy, the projection is generally softer than the other portion of the tumor. An exploring needle, or trocar and canula, rarely, if ever, reveals the mucoid fluid so characteristic of the cystic or simple affections, but usually lets out blood or the thin creamy fluid so characteristic of a cancer. In the preceding table the chief points of difference in the several chronic affections of the testicles are clearly shown."

ART. 176.—*Application of Auscultation as an Aid to the Diagnosis of Stone in the Bladder.*

By HENRY H. HEAD, M.D., Physician to the Adelaide Hospital.

(*Irish Hospital Gazette*, July 15.)

Dr. Head states that he sounded a gentleman's bladder, and was pretty sure that he detected a stone, but did not think the evidence absolutely conclusive, when it occurred to him to try auscultation, to see if it would assist his diagnosis. He accordingly applied one end of an India-rubber tube to the top of the catheter with which he was examining him, and the other to his ear, and at once heard, with the greatest distinctness, the instrument strike the stone. The evidence afforded was so conclusive that there could no longer be any doubt on the subject.

He adds: "Since I saw the above case, I have performed many experiments with substances of various sizes and degrees of hardness, placed in a bladder distended with water, and have never failed to discover them by the sense of hearing, which I have found much more delicate than that of touch. Even a small piece of soft chalk, not larger than a pea, can be most easily detected; the slightest touch of the catheter or sound being conveyed to the ear, when it could not be recognized by the hand.

"I feel confident this method of applying auscultation will afford most material aid to the surgeon in forming a diagnosis in doubtful cases."

The apparatus used by him consists of a small vulcanized India-rubber tube, about eighteen or twenty-four inches long, to one end of which an ivory ear-piece is attached, similar to that used for ear-trumpets; and into the other end is inserted a metallic plug, with a tapering end protruding, which should be pressed tightly into the canal of the catheter; or, if a solid sound is used, the end of the tube, without the plug, may be fastened on it.

ART. 177.—*On Varicocele and Varices of the Lower Extremities.*

By NATHAN BOZEMAN, M.D.

(*New York Medical Journal*, October).

The following are the conclusions at which Dr. Bozeman has arrived:—

1. That varicocele has its commencement in boyhood, though frequently not noticed until after the age of twenty-one, and that it is usually the result of self-abuse.

2. That the old theory of the greater length of the left spermatic vein, and its peculiar mode of entering the corresponding renal, does not fully explain the cause of the affection.

3. That obliteration of the spermatic veins does not always result in a cure of the disease and removal of its effects upon the system.

4. The retrenchment of the scrotum in connection with obliteration of the spermatic veins constitutes a most important part of any system of treatment, and in mild cases is sufficient alone to effect a cure.

5. That for obliteration of the spermatic veins the procedure above described is the simplest, safest, and most efficient, we believe, that can be employed.

6. That varices of the lower extremities in the middle forms are most frequently met with among women; but in the worst forms with associate ulcers upon the legs, they are oftener seen among men, owing to the heaviness of their labor and the greater persistency of their muscular efforts.

7. That varices with associate ulcers upon the legs are generally found between the ages of thirty and fifty, and that in old subjects, with broken-down constitutions, canalization of the veins is often seen.

8. That varices and varicose ulcers of the legs stand in the relationship of cause and effect, and that the permanent cure of the latter can only be effected by the obliteration of the former.

9. That varices of the external saphena vein are seldom met with in its usual course to the popliteal, and an ulcer in its track is thought to be still rarer in its occurrence; but, when it joins the internal saphena in its anomalous course, it becomes much more liable to disease, with ulcers on the outside of the ankle.

10. That varices in the worst forms are perfectly curable with the silver-wire ligature, used in the form above described.

11. That for the operation the patient should be required to stand, as in this way the prominence of the vein is maintained, and greater facility given to the passage of the needle.

12. That when the operation is properly performed it is perfectly simple, and little liable to the dangers usually feared and described by authors.

13. That the transfixion of the vein with the needle and the lodgment of the silver wire there eight days are not liable to be followed by any untoward symptoms.

14. That the wire does not effect complete division of the vein under the constricting force applied to it, nor is it necessary that this or even a partial division should take place in order to insure obliteration.

15. That eight days usually suffice for the apparatus to remain in position, when it is easily removed by clipping off the shot and withdrawing the wire.

16. That ulceration of the skin and exposure of the vein, the main cause of accidents arising from the operation, are effectually guarded against.

17. That obliteration of the vein at the ligated points is due usually to agglutination of the sides of the vein, the result of adhesive inflammation

previously induced in the endothelial membrane from pressure of the constricting wire.

18. That the method is applicable to all cases, and the cures in a very large proportion remain permanent even in the worst forms of the disease.

ART. 178.—*Median Lithotomy.*

By WILLIAM CADGE, F.R.C.S., Norwich.

(*British Medical Journal*, August 30.)

In this paper the author recounted, briefly and in general terms, the results of his personal observation and experience of median lithotomy. He summed up the advantages and disadvantages of the operation; compared and contrasted it with an equal number of cases of lateral lithotomy and of lithotripsy; glanced at the causes of death after median lithotomy, and stated the conclusions to which he was led by this experience—viz., 1. Median lithotomy is not applicable to very young subjects; 2. It is objectionable in all cases in which the stone is of considerable size; 3. It has its proper sphere, and possesses decided advantages in cases in which the stone is of moderate dimensions.

Mr. Teevan (London) greatly preferred the lateral operation of lithotomy. He had only performed median lithotomy once, but had met with cases in which sterility had followed it. The prostate was not dilatable; but, as shown by Mr. Ellis, the neck of the bladder was always lacerated in the attempt. He had lost only three patients in forty-nine operations.

Mr. Maunder (London) thought that one great advantage attending the median operation was that the patient had a dry bed. He was sure that the prostate was dilatable; for children could hold their urine directly after the operation, although the neck of the bladder had been freely dilated.

Mr. Lund (Manchester) considered median lithotomy to be really urethrotomy.

Mr. Cadge admitted Mr. Lund's criticism as to the name, and explained the operation in some detail. He pointed out that Mr. Teevan's statistics were fallacious; for out of his forty-nine cases only seven were adults, and of these two died. Every one knew that lithotomy in children was a perfectly safe operation. He had never once in all his experience been able to hear of a case of median lithotomy followed by sterility, although he had made special investigations into the point. In the lateral operation, the parts were as much bruised as they were injured by cutting in the median method. Median lithotomy was, however, fast being relinquished in Norwich.

ART. 179.—*On Obstruction of the Rectum by Fibrous Tumors of the Uterus.*¹

By M. FAUCON.

(*Gazette Hebdomadaire*, No. 30, 1873.)

This obstruction may be so complete as to cause symptoms of strangulation. In 1871 a case of this kind occurred at La Pitié, and caused M. Faucon to look up this interesting subject in authors. Very little is given in the classical works. In 1853 M. Nélaton gave a clinical lecture on obstruction of the rectum by a fibrous body which necessitated enterotomy. M. Duchaussoy has reported two cases, and M. Herrgott has observed an analogous instance.

When the fibrous tumor is very large it ascends in the abdominal cavity, and the intestine escapes. Accidents are caused by fibrous tumors of the lower pelvis, or by tumors fixed within the pelvis by adhesions. In one of the cases reported by Duchaussoy, the tumor acted simply as a heavy body; the finger introduced into the vagina could displace the tumor and remove the obstruc-

¹ Communicated to the Société de Chirurgie, Paris.

tion. In Nélaton's case the fibrous body could not be displaced, and there was retention both of feces and of urine. This patient finally suffered from stercoraceous vomiting. An artificial anus was made in the left iliac fossa. Death took place eight days after the operation. In M. Herrgott's, the lower pelvis was completely filled by the tumor; an operation was performed, and the patient died on the following day. The fibrous tumor was seated on the top of the uterus, and had forced this organ backwards. The subject of the second case recorded by M. Duchaussoy was fifty-three years of age. An artificial anus was made, and death occurred ten days after the operation. At the autopsy it was found that the fibrous tumor did not completely obstruct the rectum, and a small sound could still be passed. The uterus was adherent to the rectum at the seat of obstruction, and the wall of the intestine had ulcerated through. In the case observed by M. Faucon, Callisen's operation was performed, but with a fatal result. The tumor was not so large as to fill the lower pelvis, but it was retained there by firm adhesions. The tumors which had produced obstruction of the rectum in the above-mentioned cases were interstitial or sub-peritoneal, and were seated on the posterior wall or on the superior margin of the womb.

Treatment.—To employ ordinary means, to attempt to return or displace the tumor, M. Herrgott extirpated the tumor, M. Nélaton performed inguinal enterotomy, and M. Broca lumbar enterotomy. M. Faucon seems to prefer the latter operation.

ART. 180.—*A New Operation for the Close of Artificial Anus.*¹

By JOHN DUNCAN, M.D.

(*British Medical Journal*, August 2.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, Dr. John Duncan stated that in many cases destruction of the septum was not successful, and that there were great variety in operative methods, and a great want of success. Case F., aged 45, had a femoral hernia of seven days' standing in 1869. The bowel was gangrenous and ruptured. The patient recovered with an artificial anus, admitting two fingers; nothing passed *per anum*. In June, 1870, Dr. Duncan destroyed the septum by the gradual tightening of silver wire to a distance of an inch and a half, after which feces began to pass *per rectum*. In December, 1870, the orifice was still open, so another portion of the septum was destroyed nearly an inch higher. No improvement. In April, 1872, after clearing out the bowels, Dr. Duncan dissected up the mucous membrane all round the orifice to a distance of half an inch, invaginated it, and then sewed the surface together by six catgut sutures, then deeply pared the edges of the skin, and brought them together by silver wire; flexed the thigh on belly, and confined the diet to milk and lime-water. The cure was perfect.

Dr. Matthews Duncan described a case of artificial anus he had seen in which a spontaneous cure resulted after parturition had taken place in the interval.

ART. 181.—*On Resection of the Coccyx as a means of Facilitating the Discovery of the Inferior Extremity of the Rectum in Cases of Imperforate Anus.*²

By M. VERNEUIL.

(*Gazette Hebdomadaire*, No. 25, 1873.)

M. Verneuil long ago remarked that resection of the coccyx would considerably enlarge the operative field for the research of the inferior extremity

¹ Read at a Meeting of the Medico-Chirurgical Society of Edinburgh, May 21.

² Communicated to the Société de Chirurgie, Paris.

of the rectum in cases of imperforation of the anus. About ten years ago there was brought to this surgeon an infant whose anus was of the normal configuration, but above which, at the distance of a centimetre, was found a septum. A search for the lower extremity gave no result. After the death of the infant the rectal swelling was found about one centimetre above this septum, and it could have been easily reached after removal of the coccyx.

In 1857, and also in 1862, M. Verneuil proposed excision of the coccyx, during discussions which took place at the Society of Surgery. He rejected puncturing, which could scarcely be of any utility in diagnosis.

In 1869 M. Verneuil performed perineal enterotomy on an infant, aged four days. The anus was well formed, but imperforate; an unsuccessful puncture had previously been made with a bistoury. M. Verneuil incised the perineum layer after layer, punctured the rectal swelling, and fixed the margins of the intestine to the skin by points of suture. The infant recovered for a time, and was able to retain its motions, but died some weeks later in the country, the parents not being able to give any account as to the cause of death. In this case, resection of the coccyx had not been necessary.

M. Verneuil has had occasion to perform resection of the coccyx on five occasions.

In 1866 a boy, aged four years, was brought to M. Verneuil in the following condition: abdomen distended, great disturbance of general health, perineum well formed, an anal infundibulum about thirteen millimetres in depth. An incision was made from the point of the coccyx to the anus, but, though this was more than two centimetres in depth, the rectum could not be found. About one centimetre of the coccyx was then resected, and a livid protrusion exposed. The dissection was then continued, but before the rectal swelling was opened four sutures were passed through in order to fix it. The incision gave issue to meconium. The intestine could not be brought nearer to the skin than seven or eight millimetres. The infant died forty-eight hours after the operation.

In 1868 M. Verneuil had occasion to operate on a female infant, aged but a few hours. The raphe was convex at the part corresponding to the anus; a sound introduced into the vagina gave no indication of the presence of the rectum. An incision was carried from the coccyx to the commissure of the vulva. Guided by the sound remaining in the vagina, the surgeon dissected towards the coccyx. Resection of the coccyx rendered the terminal rectal swelling easily accessible. The infant died on the ninth day after the operation.

In 1872 a male infant, brought into the world before the completion of the period of pregnancy, was operated on forty-eight hours after birth. About eight millimetres in extent of the coccyx were resected; the stercoral tumor then appeared, and sutures were passed in order to fix it before the incision was made. The margins of the incised intestine were then fixed by eight points of metallic suture. The infant lost much blood at the time of the operation, and the hemorrhage returned on the following day. On the eighth day there was acute epididymitis, on the twenty-first day hydrocele and subsequently erysipelas, starting from the scrotum and involving the perineum. Death on the thirty-fifth day from peritonitis.

On November 29th, 1872, a child, aged fifty-one hours, was brought to M. Verneuil. The abdomen distended; vomiting. The perineum apparently fluctuated, and the situation of the anus was occupied by a small red tubercle; there was a protrusion in the perineum during any straining motion. An incision two centimetres in depth was made in the perineum, but without any result. Resection of the coccyx was then performed, and the dissection renewed. M. Verneuil then met with a cord which he punctured, giving exit to some bubbles of gas. This cord, which represented the rectum, was brought downwards and fixed to the skin. One month after this operation the infant had an attack of pneumonia. Dilatation of the anus was regularly practised; the infant recovered without incontinence. From time to time some of the urine flowed from the anus and through a urethro-rectal fistula, but most frequently micturition was performed through the penis.

M. Verneuil has thus operated on five boys and one girl; in none of these cases was there any other malformation. In four instances the anus was well formed. There was nothing beforehand to indicate that the terminal rectal swelling was deeply situated; there was no guide to the position of the intestine. M. Verneuil regards puncture of the terminal rectal swelling as a dangerous proceeding, and one which can only serve as a means of diagnosis. In these six cases there was no necessity to resort to Littre's operation; by making the dissection in the median line, wounding of important organs was avoided. The success of the operation in the five last cases is attributed by M. Verneuil to resection of the coccyx.

Resection of the coccyx, even when it is not indispensable, much facilitates the operation, and diminishes its duration. After the operation, M. Verneuil has always succeeded in meeting with the intestine in the course of a few minutes. The resection also facilitates the suture of the intestine to the skin, and thus helps to prevent infiltration of fecal matter, and subsequent constriction. If the cul-de-sac of the rectum is very high up and fixed, traction on the delicate walls of the intestine may cause their laceration; after resection of the coccyx, this dragging downwards is less necessary, for it may be carried backwards as well as downwards, in order to reach the skin. This was done by M. Verneuil in three of his cases; the anus thus displaced attains all its functions, although not very speedily. In two of M. Verneuil's operations the infants were ill developed, and in two other cases they were almost *in extremis*. The following are the results: one cure dating from nine years previously; a second case dating from six months; two operative successes confirmed at the end of one month; one death on the ninth day, another death on the second day. There were altogether four deaths, one from scleroma, a second from erysipelas, a third from exhaustion, and the fourth from some unknown cause.

These results are encouraging. The anus being carried backwards there is less likely to be incontinence of feces; there would rather be a tendency to constriction, which it is necessary to overcome by the daily introduction of the little finger. To resume, perineal enterotomy is the operation to perform, and resection of the coccyx diminishes the difficulties of the operation, and shortens its duration. Still resection of the coccyx is not always necessary.

ART. 182.—*A Simple Plug for Rectal Hemorrhage.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

Two years ago, under somewhat urgent circumstances, Mr. Jordan devised a plug, which he has found ready, simple, and efficient in checking hemorrhage from the rectum, whether recurrent or secondary. The tip of the forefinger thrusts the centre of a thin white pocket handkerchief well into the rectum, large marbles of compressed cotton-wool (or rag) are then gently pushed into the pouch in the rectum, until it is amply distended, and of a balloon shape. Expulsive efforts, or moderate traction on the handkerchief, increase its hæmostatic efficiency. The wool marbles may be moistened with the perchloride of iron if it be deemed necessary. A plug saves the necessity of pulling down the rectal wall with a vulsellum forceps, and tying the bleeding point—not a pleasant alternative, especially without chloroform. In twenty-four or forty-eight hours the rectum converts the balloon into a cylinder, which is readily withdrawn at pleasure.

ART. 183.—*Nine Cases of Colotomy.*

By CHRISTOPHER HEATH, F.R.C.S.

(*British Medical Journal*, August 30.)

The nine cases related all occurred in females. Two operations were undertaken for cancer of the rectum, causing obstruction, which had existed many

days; both patients died. Three operations were performed for scirrhus in an earlier stage, before obstruction had occurred; and of these one died and two recovered—one of the latter dying seven months afterwards, and the other being now alive and well, seven months after the operation. Two operations were performed for syphilitic ulceration and stricture; both recovered, and are alive now. One operation was performed, as a last resource, in a patient worn out with extensive fistula and ulceration (probably syphilitic) before she applied for relief, and proved fatal. The operation was performed for the relief of a recto-vesical fistula, and was perfectly successful. The result therefrom was four deaths and five immediate recoveries. Mr. Heath appended some observations on the operation and its results, urging its earlier adoption in cases of obstruction and intractable disease, and showing the slight risk to the patient the operation *per se* inflicted.

In the discussion which followed, Messrs. Maunder, Parsons (Liverpool), Meade (Bradford), Humphreys (Shrewsbury), and the President, approved of the operation. Messrs. Heath (Newcastle) and Maunder preferred the transverse incision; the latter made the wound conical, with the apex towards the deeper parts. He had met with enormous quantities of subperitoneal fat obstructing the operation.

Dr. Parsons (Liverpool) had a successful case of infantile colotomy; the patient, now twenty years old, working as a dock-laborer.

ART. 184.—*Note on the Operation of Circumcision in the Adult.*

By H. G. HOWSE, M.S.

(*Guy's Hospital Reports*, vol. xviii. 1873.)

Mr. Howse calls attention to the fact that after the operation of circumcision, as ordinarily performed, a considerable swelling, resulting from inflammatory induration, occasionally persists at the lower part of the penis. To obviate this he says:—

"The remedy which I propose, and which I have been in the habit of using in all my circumcision cases, is the following: After removing the skin in the ordinary way, cut out the wedge-shaped piece of mucous membrane at the *frænum* with a pair of scissors, and then snip the *frænum* cleanly away from the glans, thus removing it and the wedge-shaped bit of mucous membrane in one piece together. Then unite the skin and the mucous membrane in the ordinary way, etc."

ART. 185.—*Advantages of Circumcision from a Surgical Point of View.*

By J. CADELL, M.D.

(*Edinburgh Medical Journal*, February.)

Dr. Cadell read a paper on this subject before the Medico-Chirurgical Society of Edinburgh. He considered it in four aspects: 1. In infancy. 2. In boyhood. 3. In adult life. 4. In old age. He described:—

1. The local and constitutional disturbance which may be set up by a long prepuce in infancy, and showed how these might be immediately relieved by circumcision. He read notes of a case, and also referred to those of Mr. Bryant, illustrating the effects of an adherent prepuce on the urinary organs, and the relief obtained by circumcision.

2. In boyhood, he believed that a long prepuce, by imprisoning the secretion from the glans, might be an exciting cause of masturbation; and if there was an hereditary disposition to nervous affections, epilepsy and insanity might be thereby induced.

3. In adult life, circumcision would facilitate cleanliness, diminish the secretion from the glans, so that the great cause of non-venereal excoriation would

be removed, and thus render the mucous surface less susceptible to the venereal poison.

4. In old age, he cited Mr. Hey's opinion, that a congenital phimosis was an exciting cause of cancer in the penis.

In conclusion, Dr. Cadell remarked that he would strongly recommend circumcision in boys between infancy and puberty, whenever a congenital phimosis caused them the slightest inconvenience.

Professor Lister said the cases alluded to by Dr. Cadell, of irritation caused by adherent prepuce, must be admitted to be of great interest. They knew that where adhesion existed there was often an accumulation of secretion, and they could understand that to be a cause of irritation. He should like to have it clearly brought out how far the symptoms in these cases were attributable to that cause, as distinguished from mere length of the prepuce. Though all would allow that cases of phimosis ought to be subjected to operation, it ought to be considered whether circumcision was the best that could be done. The object could be obtained without mutilation. Mr. Jordau, of Birmingham, had written an interesting paper on the subject, showing that a perfectly natural condition of things might be obtained by the simple means of notching the ring of skin to the requisite extent, and then dividing the mucous membrane up to the *corona glandis*, and, avoiding all use of stitches, simply have the part drawn backwards and forwards twice every day. As regarded the question of malignant disease, he might have been unfortunate, but he had now seen a large number of cases of cancer of the penis, not one of which was associated with phimosis.

Dr. J. Bell said his experience in regard to circumcision was in cases of long standing and perfectly incurable nocturnal enuresis by small children who were in the habit of wetting the bed. In as many as four or five cases he had succeeded in effecting a perfect cure, by simply removing the redundant portion of the prepuce. In one case—a very bad case—a poor little fellow made his water first in the prepuce, which was like an orange at the end, and then he got rid of the water by squeezing it with his hand, the water coming out by a small aperture. That case was in George Watson's Hospital, and it became a question with the managers how to provide the necessary bedding for the boy. The operation performed was very simple, and was a complete cure. He (Dr. Bell) had very little experience of adherent prepuce; cases of adhesion of the prepuce were not so common as those of long prepuce.

Dr. Halliday Douglas said, that several years ago he was waited upon by a gentleman who had been married a few days before, and who had failed to effect connection. He was laboring under a very tight phimosis. He had never experienced any inconvenience during his life of twenty-five or twenty-eight years. He (Dr. Douglas) transferred him to Mr. Syme's hands, and within twelve months there were twins born to him. Another curious fact in this gentleman's history was this: In early life his brother had been relieved of phimosis, and three of his children, nephews of the first gentleman, had required to have the operation performed.

Dr. Watson was glad that the conclusion to which Dr. Cadell had arrived was, that where an elongated prepuce was a source of annoyance, it was right to relieve the person by removing it. As regarded the question of the comparative frequency of venereal complaints among persons who had been circumcised and those who had not, he might refer Dr. Cadell to a paper which appeared in the *Medical Times and Gazette*, 1st December, 1855, by J. Hutchinson, in which it was shown that at the Metropolitan Free Hospital, situated in the Jews' quarter, in London, in the year 1854, the proportion of Jews to Christians among the out-patients was as *one to three*—at the same time, the proportion of cases of syphilis in the former to the latter was only as *one to fifteen*. Yet, that this was not the result of any higher degree of morality on the part of the Jewish population was obvious, because fully one-half of the cases of gonorrhœa occurred in Jews. This preventive influence of circumcision, as regards chancreous infection, led to hereditary syphilis being rarer among the children of Jews than of Christians. . . . He was surprised that Dr. Cadell did not quote that greatest of all authorities on such matters, viz.,

Dr. Ricord, who had said, in one of his published clinical lectures: "The prepuce is an appendix to the genital organs, the object of which I could never divine; instead of being of use, it leads to a great deal of inconvenience, and the Jews have acted kindly in circumcising their children, as it renders them free from one at least of the ills to which flesh is heir. The prepuce is, in fact, a superfluous piece of skin and mucous membrane which serves no other purpose than as a reservoir for the collection of filth, especially when individuals are inattentive to cleanliness." This was very strongly confirmatory of Dr. Cadell's views, though it appeared to Dr. Watson a little extreme.

ART. 186.—*An Operation for Congenital Phimosis.*

By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*Surgical Inquiries*, pp. 28, London, 1873.)

In his presidential address, delivered at the annual meeting of the Birmingham and Midland Counties branch of the British Medical Association, June 24th, 1873, since published under the title, *Surgical Inquiries*, Mr. Jordan made many highly instructive and most valuable observations on subjects in which he is known to have taken some special interest. In commenting on some points in the surgery of the genito-urinary organs, he stated that he had more than once brought before the notice of medical readers a simple operation for congenital phimosis, which he has performed for many years. It is best adapted for young men, from puberty upwards. For little boys, as a rule, circumcision is best. After childhood Mr. Jordan's operation has the merit of completely relieving the phimosis, and yet of not interfering with work and movement. The prepuce, first on one side, and then on the other, is divided, skin and lining, by probe-pointed scissors to the extent of a quarter of an inch. The prepuce is then partially retracted, exposing a quadrilateral space of lining membrane, which is divided by a second snip on each side. The prepuce may then be fully retracted, and the incisions which were made parallel with the long axis of the penis will be found to have assumed a linear shape at right angles to the line in which they were made. The incision may be more or less free according to the degree of the phimosis. Usually no stitches are needed; all that is required is that the prepuce be kept well retracted by a strip of greased or wet lint.

ART. 187.—*On Excision of Indurated Chancres, and their Removal by means of the Elastic Ligature.*

By Dr. ISIDOR NEUMANN.

(*Allgemeine Wiener Medizinische Zeitung*, No. 36, 1873.)

"Every practitioner experienced in the treatment of syphilitic diseases can recall to mind some few cases in which an Hunterian chancre had healed, and was not followed by symptoms of constitutional syphilis. This exception to the rule is probably the reason why excision of hard chancre has found a few warm panegyrists.

"Whilst Langenbeck has reported one and Ulrich three cases, Vogt has performed a great number of excisions which were all followed by such favorable results as to have led this surgeon to form the conclusion that this method of treatment, when rationally applied, should always be preferred to any other. He describes his operation as follows: Careful cleansing and ablation of the whole field of operation before and after the excision, and application of the knife to perfectly healthy structure, are essential conditions. In dealing with an indurated chancre seated on the inner and mucous surface of the prepuce, Vogt turns back the latter as far as the corona glandis, so that the ulcer is freely exposed; the surrounding parts are then irrigated with a weak solution of permanganate of potash, and the instruments and operator's hands are

moistened with the same solution. The parts to be removed are then wiped with charpie saturated with a solution of carbolic acid. The induration having been seized by probed forceps and elevated, the preputial fold thus formed, together with the ulcer and induration, is removed by one stroke of a pair of Cooper's scissors. Charpie dipped in carbolic acid is now applied to the bleeding surface, the margins of the wound are brought together by suture, and, after frequent cleansing and irrigation, are covered by carbolic acid dressing, which is allowed to remain for twenty-four hours. At the end of this period the dressing is renewed under irrigation, and after the second interval of twenty-four hours, the sutures are removed. In dealing with a large induration, and especially one reaching nearly to the corona glandis, it is necessary to use the scalpel, and to cut round and shell out the growth, as in an operation for the careful extirpation of a malignant tumor. Though healing may not take place by first intention, as is frequently the case after excision of large chancres, the open surface, when cleansed in the above described manner, generally closes in a short time. This disinfection is carried out so that the wound may not be infected by the parts to be excised, and subsequently to prevent any contagion from ulceration that may coexist on the surface of the glands. Vogt holds that this glandular ulceration is no contra-indication for undertaking excision of a preputial chancre or indurations, nor for the removal of a phimosis. With attention to the above described precautions this dreaded ulceration is rarely met with along the line of incision, even though the wound may not heal by primary intention, whilst with their neglect the ulceration may be anticipated with certainty.

"I have paid some attention to this subject for more than six years, and until lately have succeeded in obtaining but two good results out of several operations.

"A patient of mine had had the misfortune to contract an induration. His wife, who had been away from home, was about to return, and he was very desirous of having the induration, which was about the size of a hazel-nut, removed from his prepuce. That the seat of the wound might again become indurated was no contra-indication to my patient. I performed excision at once, taking care to cleanse the margins of the wound, which, however, in spite of every precaution, did not heal by primary intention, but at the end of eight days bounded a deep ulcer, which along the whole of its periphery was hard and infiltrated. At the end of the sixth week there was complete cicatrization. In this patient there has not as yet been any manifestation of constitutional syphilis.

"Very instructive is the following case, as indicating the uselessness of those precautionary measures which Vogt regards as urgently necessary:—

"A strong young man came to me with a sharply circumscribed induration of the size of a hazel-nut, which had appeared on the upper part of the prepuce about four weeks previously. The inguinal glands on the right side were slightly enlarged; nothing abnormal was found in any other set of lymph glands. Pressing circumstances necessitated the speedy removal of the induration, and the patient begged that an operation should be performed, although I would not promise him any good result.

"In order to avoid the trouble of the many precautions required in excision, I ligatured the induration with an elastic tube. The slough came away on the eighth day, and exposed a healthy and clean wound, the base and margin of which showed no induration, and which became completely cicatrized at the end of a month. Five months have intervened, and no symptom of constitutional syphilis has yet been observed."

ART. 188.—*Report of a Case of Priapism.*

By W. JOHNSON SMITH, F.R.C.S., Surgeon to the Seamen's Hospital, Greenwich.

(*The Lancet*, June 7.)

Mr. Johnson Smith places on record the history of a case of priapism, which, after lasting more than four weeks, yielded to an ointment composed of equal parts of extract of belladonna and mercurial ointment.

ART. 189.—*The Treatment of Gonorrhœa by Local Remedies only; with Complicated Cases so Treated.*

By PHILIP FOSTER.

• (*Medical Times and Gazette*, Oct. 25.)

Some most eminent authorities having condemned the use of injections in the first stage of gonorrhœa, Mr. Foster feels that he is simply discharging a duty in recording how exceedingly successful, during an extended trial, this mode of treatment has proved in his hands. That cases do occasionally occur in which the immediate use of injections would not be prudent, he admits, but experience has assured him that the great majority of cases may be thus treated with the most perfect safety and success. Where mischief has followed this mode of treatment, he believes it to have arisen from injections of too powerful and irritating a nature having been used. His success in the treatment of this complaint he considers mainly attributable to the use of very mild injections; at first, say, one or two grains of sulphate of zinc to the ounce of water, strengthening or changing them in a few days if necessary. Three or four days usually suffice to effect a cure, but Mr. Foster considers it advisable, and always recommends that it should be persevered with for a few days after the discharge has entirely ceased. The occurrence of gleet and stricture would, he believes, be exceedingly rare after this mode of treatment.

Mr. Foster observes that the following are not selected cases, but the only complicated ones that have come under his care since he commenced his present mode of treatment. Case 1 is inserted because it illustrates the mischievous effect of strong and irritating injections—the reason, he believes, of local treatment having fallen into disrepute.

"CASE 1.—Mr. — called upon me, complaining of great pain and uneasiness in the urethra, especially when passing water. The meatus looked red and irritable, and there was a slight glairy discharge issuing from it. He had the day before consulted a surgeon at Manchester, where he resides, who had prescribed an injection of nitrate of silver, gr. j ad 3j, to be used three times a day. He said that this injection, which he has used twice, had made him decidedly worse. I ordered an injection of sulphate of zinc, gr. j ad 3j, to be used six or eight times a day. The next day he wrote to inform me that all the symptoms had entirely disappeared, and I have since heard that there has not been any return of them.

"CASE 2.—In this case the whole penis was exceedingly swollen, and there was great constitutional disturbance. Ordered antimony and saline aperients, sugar of lead lotion, rest, and low diet. A week of this treatment having sufficed to get rid of the swelling and fever, an injection of sulphate of zinc, gr. j ad 3j, was directed to be used four times a day. As, however, a week passed by and the discharge still continued, although the zinc had been increased to g. ij, cupri sulph. gr. j ad 3j was substituted for the zinc. On the fourth day after commencing with the copper the discharge had completely ceased, and the patient has remained quite well.

"CASE 3.—This commenced as an ordinary case of gonorrhœa. An injection of zinci sulph. gr. ij ad 3j, was prescribed four times a day. On the third day

the patient was decidedly better, but on the fifth inflammation showed itself in the left testicle. The injection was at once discontinued, and the usual remedies for orchitis were commenced with. On the fourth day, the orchitis having disappeared, the injection gr. j ad ʒj was resumed, and in a week the patient was quite well. This patient, whom I have not seen since, informed me that he had suffered from inflammation in the same testicle during a previous attack of gonorrhœa, although he had not then been treated by injection; so that the orchitis cannot be reasonably attributed to the injection."

ART. 190.—*On Latent Gonorrhœa in the Female Sex.*

By ANGUS MACDONALD, M.D.

(*Edinburgh Medical Journal*, January.)

In an elaborate paper on this subject, the author discusses the views enunciated by Dr. Emil Noeggerath, of New York, who maintained that the wife of every man who at any former period of his life had been affected with gonorrhœa, even though the cure had been apparently perfect, was affected, with very few exceptions, with latent gonorrhœa, which sooner or later brings its existence into view by establishing some form of uterine disease, often of great gravity. Without going so far as Dr. Noeggerath, the author thinks it certain that even an apparently cured gonorrhœa in the husband may prove a complication fraught with extreme danger to the female, and when pregnancy occurs, one which is apt to give rise to dangerous and even fatal forms of puerperal fever. He thinks these cases prove that, if a man marries with the slightest shade of a gleet, he exposes his wife to great misery throughout her menstrual life, as well as to great risk of her life should she become pregnant.

ART. 191.—*On Diphtheritic Bubo.*

By Professor BOUCHUT.

(*Medical Times and Gazette*, November 29.)

Under the title of *The Treatment of Diphtheritic Bubo* Professor Bouchut communicates an interesting paper to the *Bulletin de Thérapeutique* of October 15th. Although one of the important complications in diphtheria, croup, and scarlatina, it is not, he observes, much known, and is not to be confounded with the simple glandular enlargement often met with in diphtheritic anginas, and which is frequently regarded as a sign of diphtheritic poisoning. This bubo is a suppurating adenitis, having nothing specific or toxical in its nature, and which appears to be the result of irritation existing in the vicinity. It is, in fact, only another example of the law of glandular pathology according to which, wherever local irritation is present, there may be set up irritation, inflammation, or suppuration of the corresponding lymphatic glands. Thus, any irritation or wound of the foot or genital organs may induce swelling of the groin; that of the fingers, adenitis of the elbow or armpit; that of the scalp, occipital adenitis; that of the lungs or bronchi, mediastinal adenitis; and that of the mouth or tonsils, ganglionic inflammation of the neck under the angle of the jaw, or in the parotid region. The progress of any of these inflammations may vary much in different individuals, suppuration occurring rapidly in some cases and more slowly in others.

In the diphtheritic and scarlatinal angina, the progress of the bubo is not very acute. At first we find one or more glands swollen but scarcely painful, they seeming lost in the doughiness of the cellular tissue, which constitutes a tumefaction in the submaxillary region extending to near the ear. There is a deep-seated, peri-glandular phlegmon which cannot be arrested, and will go on to suppuration. The tumor becomes hard and painful, without any change in the color of the skin, and without feeling very hot to the hand. The movements of the neck are difficult or impossible; and if the febrile condition of the angina had

abated, it is rekindled, the temperature rising to 38° or 39° and some tenths. By degrees the tumor becomes softer, and is the seat of a deep-placed and uncertain fluctuation, which may continue so for several days, only becoming subcutaneous very slowly. If not opened, it eventually discharges itself, but then there is considerable collection of matter, and there is a deep detachment of the muscles of the neck, the connective tissue of which has disappeared; symptoms of putridity set in, and the child sinks.

The pus in these cases, at first disseminated, is slow in forming itself into an abscess, and when this has taken place there is already considerable detachment of the deep-seated parts. Here lies the danger of these cases, for when one has the courage to seek for the pus in good time, as soon as its formation has taken place, and before any detachments occur, these buboes heal readily enough. Of twenty-two cases of these abscesses met with in Prof. Bouchut's wards, six having been opened in good time were cured, but all the other children died. The sole means, in fact, of preventing the fatal accidents which result from abscess of the neck caused by tonsillar diphtheritis or scarlatinal angina is opening it promptly, and, if necessary, inserting a drainage-tube.

The case which was the immediate cause of these reflections occurred in a child seven years old, who had been cured of a diphtheritis by means of injections of saponized coal-tar. There was only some albuminuria remaining, when the left submaxillary region became inflamed, and the temperature mounted up from 37.2° to 39.3° . Collodion was applied during three days without any result; and a deep-seated fluctuation was believed to be felt. As this is often a deceptive sensation in this region, M. Bouchut postponed interfering for another twenty-four hours. His doubts then continued the same; but fearing that detachment of the deep-seated parts might occur, he ventured to pierce the supposed fluctuating point. A few drops of pus were seen on the blade of the bistoury, which had penetrated to four centimetres, and the opening was enlarged on a conductor. Two days afterwards the aperture had in part closed, pus was only imperfectly discharged; and the tumor was as large as at first—deep-seated fluctuation being perceptible. Having ascertained the size of the abscess by means of a probe, a counter-opening was made, and a drainage-tube inserted. The child did very well.

ART. 192.—*Operation for Removal of the Female Breast by means of India-rubber Ligatures.*

By SIR HENRY THOMPSON, at the University College Hospital.

(*Medical Times and Gazette*, November 29.)

On Friday, November 21st, Sir Henry Thompson performed an operation upon the female breast, which, so far as we are aware, is perfectly new to surgical practice in England. Previous to the entrance of the patient to the theatre, Sir Henry stated that the plan he was about to adopt had been brought recently under his notice during a visit to Vienna by Professor Dittel. An accident, as it were, suggested the treatment to Dittel, who now for some time has employed it in over 200 cases, such as of tumors of the breast, in removing the testes and even limbs, and in the cure of fistula in ano. Having been called upon to see a young girl dying from meningitis, the following account of the case was given him:—

The patient, who had been constantly reproved by her stepmother on account of the untidy state of her hair, was advised some weeks before her death to get a tightly-fitting net for her head, and to wear it night and day. This she did till the last, when it was found that the elastic band of the net had cut its way through the scalp and cranium, and was resting on the meninges of the brain, fatal inflammation of which it had set up.

The immense power for effecting the solution not only of the soft tissues of the body, but even of bone, having, by the constantly contracting pressure of an elastic band, been thus so remarkably proved, Professor Dittel resolved to

attempt in certain cases to substitute this power for the knife in surgical operations.

The application of the treatment to the mammary gland by Sir Henry Thompson we will now describe. The patient, a woman of about fifty-three years of age, had for ten years been conscious of a tumor in the right mamma. When first noticed it was seated near the nipple, below and to its outer side, and was of the size of a walnut. As it was discovered about the time of her confinement with her last child, which died soon after its birth, she was led to regard the tumor as a "distended milk-duct." It has gone on increasing, however, though very slowly, and about eight weeks ago the skin covering the tumor commenced to ulcerate. At the time of the operation the histological characters of the tumor were doubtful. It was of the size of a large orange, ulcerated on the surface, somewhat pendulous, and freely movable upon the subjacent tissue. The patient was a robust and healthy-looking woman. Chloroform having been administered, Sir Henry drew the mamma forward from off the pectoral muscle, and then, with a very long, strong, and slightly curved Liston's needle, transfixed the submammary tissues. Through the eye, near the point of the needle, a long piece of very elastic India-rubber tubing, about the thickness of stout whipcord, together with a long silk ligature, was passed. The elastic ligature was then divided, and the needle withdrawn. Each half of the elastic ligature was tied very tightly, so as to embrace one-half of the mamma, inclusive of the skin. In fastening the elastic ligature a piece of silk ligature was placed at right angles to the elastic between the skin and the knot and while the single knot was tightly drawn, the silk was tied around it by an assistant to prevent its slipping. A double knot was then made, and this was secured by again tying the silk around the elastic.

The long silk ligature which had been passed with the elastic tubing through the submammary tissue was then removed. The purpose of passing this was precautionary, in order that another piece of elastic might be drawn along the same track in the event of either half of that which was first passed breaking. Another precaution very necessary to take is to hold the elastic firmly at the time of dividing it and while withdrawing the needle, otherwise the contractility of the tubing will cause its disappearance through the track made by the needle.

The time likely to ensue before the entire separation of the breast is eight or nine days. The pain excited during any portion of this time is remarkably slight. Sometimes a little pain is suffered for a day or two. In the case of the patient now referred to, there was no pain after the first twenty minutes from the time of recovery from the chloroform, and the suffering during this brief period was not at all severe.

The advantages over the knife which Professor Dittel supposes the elastic ligature to possess are (1) that it does away with the necessity of a cutting operation, and all the horror and distress which the idea of such excites in the minds of many patients; and (2) it is attended by less risk of pyæmia.

ART. 193.—*Cyanopuon Laryngis, or Thyroiditis with Blue Suppuration.*

By SIR DUNCAN GIBB, Bart., M.D.

(*British Medical Journal*, August 30.)

Three-and-twenty years ago, Sir D. Gibb recorded a case of cyanuret of iron in the purulent discharge of chronic disease of the breast, to which he prefixed the name of cyanopuon, and gave a summary of cases published. In October, 1870, an instance of inflammation of the right wing of the thyroid cartilage came under his notice in a single lady of twenty-seven, which was followed by suppuration. The matter evacuated was of a dark blue color, like Prussian blue, and continued to flow for some days, finally healing with no inconvenience or subsequent bad result. On chemical examination, the color of the pus was found to depend upon a salt of iron analogous to Prussian blue, and not to indigo. The case was not only remarkable from the rare nature of the disease

itself, occurring without any apparent cause, but also from the discoloration of the matter like Prussian blue. This circumstance was extremely rare, and, therefore, in combination with the suppurative external inflammation, rendered the case unique in the annals of medicine. The chemical experiments were detailed, and some speculations were offered as to the nature of the phenomena which gave rise to the blue pus. The patient had not taken iron internally for many years.

ART. 194.—*A Case of Traumatic Pneumothorax, Illustrating the use of the Aspirator.*

By HERBERT PAGE, M.B., Carlisle.

(*British Medical Journal*, August 30.)

The history of a case was detailed in which, owing to the wound of the lung, from in-driving of a fractured rib, there was pneumothorax, with total collapse of the right lung. The case was, from the first, an urgent one; the dyspnoea and collapse being both extreme. The chest was punctured for hours after the accident by Dieulafoy's canula; and, on exhausting air from the pleural cavity by means of the pneumatic aspirator, immediate improvement in the condition of the patient followed. At the time of the operation, blood was drawn into the receiver; and examination of the chest on the day after the injury revealed dullness on percussion at the base on the right side. This was due to the presence of blood; and the aspirator was subsequently used three times for the removal of this blood, and the further withdrawal of air from the cavity of the pleura. The patient made a good recovery, and the lung was restored to its normal state. In the remarks on this case, the writer, while admitting the advantages of Dieulafoy's canula, as an instrument for puncturing the chest, called attention to the possible source of danger from hemorrhage into cavities exhausted of their contents by the aspirator.

ART. 195.—*On some of the New Growths developed in the Breast associated with Cysts.*

By JOHN BIRKETT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xviii., 1873.)

Nine cases are given in detail, illustrating the various forms of new growth which are met with in connection with cysts in the mammary region, and the author proposes a mode of classifying cysts of the breast, which, as it differs somewhat from the classification commonly employed, we copy for our readers' edification.

CYSTS IN THE BREAST.	I. Associated, communicating, or connected with the ducts.	<ol style="list-style-type: none"> 1. Milk. 2. Growths; with serum coagulable, and sometimes tinged with blood. 	<ol style="list-style-type: none"> 1. Adenoid. 2. Granulation cells. 3. Cancer.
	II. Not connected with the ducts.	<ol style="list-style-type: none"> 1. Blood. 2. Milk. 3. Simple cysts. 4. Entozoon cysts. 5. Growths; with serum coagulable, tinged with blood, and containing cholesterine. 	<ol style="list-style-type: none"> Serum not coagulable. 1. Adenoid. 2. Granulation cells. 3. Cancer.

Mr. Birkett's paper is illustrated with two fine plates, each containing two figures.

ART. 196.—*A New Apparatus for the Treatment of Fractured Ribs.*

By C. A. HEMINGWAY, Esq., Dewsbury.

(British Medical Journal, August 30.)

The apparatus described by Mr. Hemingway was one which he had some months ago employed in his own case, having unfortunately broken his ribs by a fall. It consisted of a case of soft leather, formed so as to accurately fit the chest, without impeding the action of the abdominal muscles and diaphragm. The back portion, being continued upwards, overlapped and pressed on the scapulæ. Inside the lining of the case a layer of cotton wadding might be placed if necessary. Between the case and lining eight pockets were formed, three on each side, and two, larger and deeper, behind. Into these pockets were introduced splints; for which the author preferred pasteboard soaked in hot water, bent so as to adapt itself to the chest, and dried. The splints should be applied on that side only of the chest where the fracture existed. To assist in keeping the fractured portions in apposition during the movements of respiration, he placed elastic bands between the pockets. The apparatus was fastened around the chest and over the shoulders by straps and buckles. The apparatus, and a photograph of its application *in situ*, were shown.

ART. 197.—*History of a Case in which a Knife was swallowed and passed through the Abdominal Wall, after an Interval of Nine Weeks.*

By EDWARD LUND, F.R.C.S.

(Liverpool and Manchester Medical and Surgical Reports, 1873.)

A female, twenty-six years old, during an attack of delirium tremens, swallowed a dessert knife, the metal part of which measured six inches and a half. Eight weeks later a globular swelling made its appearance in the right side, nearly on a level with the umbilicus, and the sharp edge of a foreign body could be felt distending the skin, which was freely movable over the tumor. After some days the blade of the knife protruded through the skin, and was easily removed by slight traction without additional incision. The ivory handle had been entirely digested, and the extremity of the blade was rendered very thin by the action of the gastric juice. The nervous shock was considerable at the time of the removal of the offending body, but a good recovery was made without the formation of a gastric fistula.

ART. 198.—*Case of a Foreign Body in the Bladder with Stricture of the Urethra.*

By EDWARD LUND, F.R.C.S.

(Liverpool and Manchester Medical and Surgical Reports, 1873.)

An engineer, aged thirty-three, had suffered from stricture for thirteen years, and for the last four had been in the habit of passing bougies himself. Having used a flexible No. 3, instead of a number 4, while the bladder was very full, the bougie slipped from his grasp and disappeared, the ivory knob remaining in his hand; after five days he began to experience pain upon urinating, which increased until the advice of a surgeon was sought. Mr. Lund, aided by the history of the case, detected a soft foreign body in the bladder, and as soon afterwards as the business of the patient permitted, undertook an operation for its removal. Six ounces of water were first injected into the bladder through a small catheter, and the stricture was split by a Holt's dilator. A small-sized Coxeter's lithotrite was then introduced, but the foreign body could not be felt; ultimately, the bladder having been partly emptied, the offending substance

was found, caught between the blades of the lithotrite, and easily withdrawn entire, there being very little deposit on it. The patient was treated as recommended by Mr. Holt for a ruptured urethra, and did well until the fourth day, when, as Mr. Lund thinks, owing to imprudent exertion, severe urethral fever was developed, which went on to the formation of pyæmic abscesses. After a serious illness, prolonged through five months, the patient recovered with the stricture cured.

ART. 199.—*Mr. Gutteridge's Operation for Stone in the Bladder.*

(*Medical Times and Gazette*, November 15.)

Mr. Gutteridge performed his operation for vesical calculus on Monday, November 3d, at St. Peter's Hospital for Stone. Mr. Gutteridge's scheme consists of two parts—viz., to use his own words, "of a due combination of incisions of parts ascertained by extended experience to be capable of being safely severed; and of implements with which the successive stages may be most surely and with least danger accomplished." The patient was a boy sixteen years of age, a native of the Black Country, and was submitted to operation without being anæsthetised, as Mr. Gutteridge has a strong objection to chloroform or ether in lithotomy. Kneeling before the patient when in the lithotomy position, and with his eyes thus in a line with the perineum, the operator first passed the staff, which he handed to his assistant; he then made very firm pressure with the fingers of his left hand upon the anus, thus dragging the skin of the left side of the perineum, with the lower extremity of the gut, well over towards the right tuber ischii. He next rapidly plunged the scalpel into the groove of the staff at a point a little to the left of the raphe, and on a level with the anterior extremity of the tuber ischii, and then, without running the scalpel along the groove, he made it cut its way through the soft tissues. Next he passed the beak of the cystotome into the roughened groove, and, with the cutting edge directed a little upwards from the horizontal direction, he passed it onwards through the prostate, and then turned the edge downwards and brought it out at the lower extremity of the skin-wound. This done, he passed his left index-finger into the bladder, felt the stone, then withdrew the staff, and passed in along the finger a grooved conductor, much like a narrow blunt gorget, and along this, after withdrawing the finger, he guided the forceps, only one blade of which was in the groove of the conductor. The stone was seized and at once withdrawn, and the operation thus completed.

It will be understood from this account that the method differs from that adopted by other surgeons in that:—

1. No anæsthetic is administered.
2. That in dividing the structures in the ischio-rectal fossa the scalpel is thrust by one plunge into the groove of the staff at the point of the anterior extremity of the wound; and that owing to the traction made on the anus, the incision through the skin, when the parts are relaxed, is seen to extend over the tuber ischii.
3. That the incision whereby the bladder is opened is semilunar in shape, and describes a curve constituting an arc (as Mr. Gutteridge states it) of 100° of a circle.
4. That the forceps are guided into the bladder along a grooved director, instead of along the left index-finger.

Mr. Gutteridge spares, if possible, the membranous portion of the urethra, and lays open only the prostatic part. His aim is to make his knife enter the canal at the apex of the prostate gland.

For these modifications in the procedure special instruments are provided. These were recently shown to members of the British Medical Association, at the forty-first annual meeting, in August, a description of which Mr. Gutteridge has himself given as follows: "A table constituted of a fixed frame, on which is a sliding top, whereby the patient may be firmly fixed and kept symmetrically in all respects, and yet through which, by means of a simple screw action, the position of *tight-up trussing* may be speedily relaxed, and the pressure on the

respiratory and venous system lightened, so that in a protracted operation rest may be given and renewed efforts made, by intervals, at the operator's pleasure—a resource in the aged and the fat of the very first importance as respects the sustaining the patient's power of endurance without fatal congestion. The manual instruments consist, first, of a staff, with handle capable of being used by the operator and the assistant at the same instant of time, and with a furrow for the knife to traverse, coiling slightly, and ruffed so that the holder of the knife may have a positive assurance of the knife and staff being in real contact throughout the course of the knife, until it is entered into the bladder. Secondly, an implement consisting of a handle shaped for the finger and thumb, with scalpel mounted at one end; and at the other a beaked knife (properly a cystotome), fixed at a right angle to the scalpel on the axis of the haft, so that one instrument may effect, by a move of the finger and thumb, the two distinct incisions, the external one and that of the prostate. Thirdly, a conductor for the forceps conformable in respect of size to the operator's left forefinger. Fourthly, forceps with supplementary handles, by which the stone may be compressed with hair-light pressure, while increased force is brought to bear on the main arms of the forceps; admitting of the separation of the process of compression and traction; as well as relaxation of the hold of the stone, for the purpose of adjustment of the forceps to the stone, or gentleness of pinch, in case of the stone being of friable material."

The operation for stone performed with these instruments and in this way Mr. Gutteridge would desire to have known as "lithotomy made speedy and safe." Certainly in his own hands, when performed as we saw it, it is rightly so styled. It was done in a remarkably short time—less than half a minute—and every step in the operation was executed with rapidity and precision. The boy has gone on perfectly well since the operation, and within forty-eight hours afterwards the urine was all voided by the natural passage. This, as is well known, is an unusually short time between the operation and the safety of the patient, which is secured by the flow of urine along the urethra. On the eleventh day after the operation the patient returned to his home in Staffordshire, perfectly cured.

ART. 200.—On the Introduction of Fluids into the Urinary Bladder and the Intestine.

By Professor A. HEGAR.

(*Deutsche Klinik*, 8, 1873; *Schmidt's Jahrbücher*, No. 4, 1873.)

For the purpose of conveniently introducing certain quantities of fluid with an easily regulated pressure into the bladder or intestine, Professor Hegar recommends a simple apparatus consisting in a funnel which, by means of a gum-elastic tube about one foot or one and a half in length, is connected with a catheter or a clyster tube having an olivary termination. By placing the patient in a certain position the pressure of the abdominal viscera against the introduced fluid may be diminished; the passage of fluid into the bladder or intestine not only meets with no opposition but is actually favored.

In filling the bladder the patient is placed in a kind of lithotomy position, only with slight elevation of the upper part of the body. In order to prevent the introduction of air the catheter is previously filled with water through the funnel, the eye of the instrument being closed as long as possible during the introduction. After the introduction of the instrument into the bladder the latter can be filled at will by the elevation of the funnel, and emptied by its depression. With the latter movement the contents of the bladder flow back into the funnel; it is possible, therefore, to change the fluid by drawing it off and by introducing fresh water or medicated fluids. Should the bladder in cases of hypertrophy or contraction be distended by gradually increased filling, the abdominal position, on account of the absence of pressure, would then be preferable.

In order to introduce fluids into the intestinal canal, especially into a portion

seated high up, the best position in which to place the patient is on the elbows and knees; or that in which the patient is supported on the regions of the knees and shoulders, and the thorax is brought close to the pelvis. With slight elevation of the funnel the fluid rushes in and reaches to the elevated portions of the canal, which is of great advantage when one endeavors to supply nutriment through the large intestine. From five to eight pints of fluid may thus be conveniently introduced before the sphincter muscle yields. Professor Hegar recommends this as a much more convenient and efficacious plan than that of the forcible injection of water recommended by Simon, and especially for the reason that by elevation and depression of the funnel one can closely regulate the pressure of the introduced fluid.

ART. 201.—*A Successful Case of Abdominal Section for Intussusception, with Remarks on this and other Methods of Treatment.*¹

By JONATHAN HUTCHINSON, F.R.C.S., Surgeon to the London Hospital, etc.

(*The Lancet*, November 22.)

The author first narrated the particulars of a successful case in which he had opened the abdomen for the relief of intussusception. The patient was a child aged two years. The intussusception had commenced at the cæcum, and was of such length that its extremity, presenting the inverted ileo-cæcal valve, was extruded several inches at the child's anus. The condition had been one month in course of development; latterly the case had been treated as one of prolapsus, and attempts had been made to keep the bowel in place by means of a cork pad. The child was very ill, and the author, having failed in attempts to effect reduction by enemata, etc., and having had experience of several similar cases which had ended fatally, determined to operate. The child was put under chloroform, and the abdomen was opened in the middle line, below the umbilicus. The intussusception was then easily found, and as easily reduced. The after-treatment consisted only in the administration of a few mild opiates, and the child made a rapid recovery.

The author next narrated briefly the particulars of three somewhat similar cases in which he had been consulted, and in which the intussuscepted bowel could be easily felt by the finger in the rectum. In all three, in spite of persevering treatment by injections, bougies, etc., the patients had died unrelieved.

Without attempting anything like a statistical analysis of recorded cases, the author appended to his paper, in tabular form, the notes of a very considerable number of cases bearing upon the diagnosis and treatment of similar lesions.

From the consideration of these the following conclusions were suggested:—

1. That it is by no means very uncommon for intussusception to begin at the ileo-cæcal valve, and to progress to such a length that the invaginated part is within reach from the anal orifice or even extruded.

2. That it is of great importance in all cases of suspected intussusception to examine carefully by the anus.

3. That in almost all cases of intussusception in children and probably in most of those in adults, the diagnosis may be made certain by handling the invaginated part through the abdominal wall.

4. That the prognosis of cases of intussusception varies much; first, in ratio with the age of the patient, and, secondly, with the tightness of the constriction.

5. That in a large proportion of the cases in which children under one year are the patients, death must be expected within from one to four or six days from the commencement.

¹ Read at a Meeting of the Royal Medical and Chirurgical Society, November 11.

6. That in the fatal cases death is usually caused by shock, or by collapse from irritation, and not by peritonitis.

7. That in many cases it is easy, by estimating the severity of the symptoms (vomiting, constipation, etc.), to form an opinion as to whether the intestine is strangulated or simply irreducible.

8. That in cases of strangulated intussusception, whilst there is great risk of speedy death, there is also some hope that gangrene may be produced, and spontaneous cure result.

9. That in cases in which the intussuscepted part is incarcerated and not strangulated, there is very little hope of the occurrence of gangrene, and it is probable that the patient will, after some weeks or months, die, worn out by irritation and pain.

10. That the chances of successful treatment, whether by the use of bougies or by the injection of air or water, are exceedingly small, excepting in quite recent cases, and that if the surgeon does not succeed by them promptly, it is not likely that he will succeed at all.

11. That the cases best suited for operation are those which have persisted for some considerable time, and in which the intestine is only incarcerated, and that these cases are also precisely those least likely to be relieved by any other method.

12. That in the cases just referred to, after failure by injections, bougies, etc., an operation is to be strongly recommended.

13. That the records of post-mortems justify the belief that, in a considerable number of the cases referred to, the surgeon will encounter no material difficulty after opening the abdomen.

14. That the circumstances which might cause difficulty are—(1) the tightness of the impaction of the parts; (2) the existence of adhesions; and (3) the presence of gangrene.

15. That, in selecting cases suitable for operation, the surgeon should be guided by the severity of the symptoms to an estimate of the tightness of the strangulation, and as to the probability of gangrene having already set in.

16. That in cases in which the patient's symptoms are very severe, or the stage greatly advanced, it may be wiser to decline the operation, and trust to the use of opiates.

17. That the operation is best performed by an incision in the median line below the umbilicus.

18. That in cases of intussusception in young infants (under one year of age) the prognosis is very desperate, scarcely any recovering excepting the few in whom injection treatment is immediately successful, whilst a large majority die very quickly.

19. That the fact just mentioned may be held to justify, in the case of young infants, very early resort to the operation.

20. That it is very desirable that all who, in the future, have the opportunity for post-mortem examination of intussusception cases should give special attention to the question as to whether an operation would have been practicable, and should record their results.

ART. 202.—On the Treatment of Vesico-vaginal Fistula when the Urethra, Neck, and Floor of the Bladder have been destroyed.

By G. KIDD, M.D.

(*Dublin Journal of Medical Science*, April.)

Dr. Kidd relates a severe case of this kind in which he effected a cure by closing the whole vagina, leaving only a small aperture anteriorly to serve as a urethra. This he effected by paring the mucous membrane of the inner surface of the labia and posterior wall of the vagina. He then placed a No. 10 catheter close up under the arch of the pelvis, and then brought the hard surfaces into contact by means of four deep-quilled sutures and some superficial wire sutures, just as in an operation for ruptured perineum. After removal of the sutures

perfect union was found to have taken place. A spring pad like a truss, invented by M. Trélat, of Paris, was then fitted on to the orifice of the urethra, and the woman was then able to retain the urine perfectly in any position. The fact that the patient is unsexed by this operation is, he thinks, a secondary consideration in such a state of things.

ART. 203.—Renal Abscess containing Calculus relieved by Operation.

By THOMAS ANNANDALE, M.D.

(*Edinburgh Medical Journal*, April.)

An interesting case of this is related by Dr. Thos. Annandale. The subject of it was a farmer, aged sixty-three, who had for nearly twelve months suffered from uneasiness in right lumbar region, to which he had given but little attention. He had been under treatment for gastric and renal derangement, by Dr. Dewar, for six weeks, when Dr. Annandale was called to see him in consultation on the 29th April.

There was at this time tenderness on pressure over the lower half of the right kidney, and below it in the direction of the ureter. A very slight fulness in the same region was noted, but no marked swelling could be detected. The patient was much emaciated and exhausted from the irritative fever, the signs of which were most apparent. No fluctuation could be felt, and the introduction of a fine trocar and canula into the right lumbar region gave no result.

Dr. Annandale saw the patient again 23d May, when his "local symptoms were unchanged, except that through the anterior abdominal wall there was a feeling, not very distinct, of deep fluctuations immediately below the region of the affected kidney. His general symptoms were much worse, and he urgently begged me to try and do something for his relief, as he felt sure that he could not live twenty-four hours longer in his present state.

"After a careful consideration of his case, my colleague and myself felt very sure that there must be suppuration in the region of the right kidney, and as the patient's condition seemed hopeless unless relief was given, it appeared to us that an exploratory incision was the proper and justifiable proceeding. The patient's consent having been readily obtained, chloroform was cautiously administered until complete anæsthesia was produced. I then made an incision through the abdominal wall on the right side, in the situation and direction of the incision employed for the ligature of the common iliac artery, except that it did not extend quite so high up. The peritoneum having been exposed, it, together with the abdominal contents, was carefully pushed inwards towards the middle line, until the outer edge of the psoas muscle was reached with the finger. On endeavoring to separate the peritoneum still further towards the upper end of the wound, it was found to be firmly adherent at this point; but after a little careful scratching with the finger-nail the adhesion gave way, and the finger passed into a cavity outside the peritoneum, from which there was a flow of very offensive pus. A little further separation with the finger caused the escape more freely, and also determined the presence in the abscess cavity of a small calculus, which was seized with forceps and removed. This calculus was the size of a horse-bean, oval in shape, and composed principally of phosphate of lime, with a small quantity of the triple phosphate, and a trace of animal matter.

"The abscess having been emptied, its cavity was sponged out with a solution of sulphurous acid, and the edges of the abdominal wound were brought together with sutures, a free opening, however, being left at its lower end for the better escape of pus or other fluids from the cavity.

"The operation gave great relief to the patient, and his progress was most satisfactory up to the fifth day, when for the first time a small quantity of thin feculent matter was noticed to pass by the wound: and there was some pain in, and swelling of, the abdomen, with an increase of the pulse and a rise in the temperature. These symptoms passed off after the removal by Dr. Dewar of a large quantity of hard fecal matter which was obstructing the rectum, and

the patient without any further drawback made a complete recovery. Small quantities of fecal matter continued to pass by the wound for nine days after the operation, but from this time no further discharge was observed. At the end of a month the patient was able to walk about, and up to the present time he remains perfectly well and strong."

Dr. Annandale remarks that the case was evidently one of renal calculus, which had given rise to suppuration and ulceration, and had in this way escaped from the kidney. The abscess passing downwards was preparing to empty itself into the ascending colon or cæcum: and had the operation not been performed, and the patient lived, it would in all probability have shortly opened into the intestine, and the pus would have been discharged by the rectum.

"In the treatment of this case I only now regret that the exploratory incision was not made sooner; for, if it had been the patient's sufferings would have been earlier relieved, and the fistulous communication with the intestine prevented.

"I preferred making the incision through the anterior abdominal wall instead of in the lumbar region, because the fluctuation, although never very distinct, could only be felt from the former situation, and the introduction of the trocar deeply into the lumbar region failed to obtain any results. The rapid and complete closing of the fistulous opening was an interesting point in the progress of the case, and proves, I think, that the opening of communication with the intestine was small, and that the free exploratory incision, by allowing the pus to escape readily, tended to prevent further destruction of the intestinal wall."

ART. 204.—*Ovariectomy by Enucleation—Recovery.*

Reported by SAMUEL LOGAN, M.D., Professor of Anatomy and Clinical Surgery in University of Louisiana, and W. H. FORD, M.D., Professor of Physiology in New Orleans School of Medicine.

(*American Journal of Medical Sciences*, July.)

Professor Miner's plan of operating for ovarian tumor being still *sub judice*, it seems to be the duty of all who resort to that method to report their results, and under that conviction we record the following case, the early symptoms of which were developed under the immediate observation of Prof. Ford, in whose practice the case occurred:—

Mrs. A. H. L., aged forty-two; married; multipara; nervous and excitable; subject to hysterical paroxysms; has not menstruated since birth of last child, now twenty-one months old.

May 12th, 1872:—Has a tumor in hypogastric region as large as the uterus at four months' utero-gestation, ovoidal in shape, movable.

June 8th.—Tumor increased in size until it now fills the abdominal cavity; everywhere tender on pressure, or even to the slightest touch. Dulness on percussion over abdomen; fluctuation in the neighborhood of umbilicus. General contour of tumor clearly recognizable; vagina and cervix normal; uterus immovable in hollow of sacrum. No fœtal heart sound, but a constant murmur closely simulating the placental souffle, most marked on the left side.

9th.—Patient in great distress, demanding relief; abdomen tense and extremely painful to touch; fluctuation perceptible over the whole abdomen. Pains, similar to those of labor, coming on every hour or two. The uterine sound could not be introduced more than two and a half inches. Under diet, warm water douches in the vagina, stramonium poultices to abdomen, etc., the acute symptoms ceased after a few days.

The general fluctuation, the presence of bosselated enlargements on the sides of the pyriform mass, the rapid growth, and acute pains, determined the diagnosis in favor of cystic degeneration of the wall of the uterus, or of some of the annexes of that organ.

15th.—Chloral at night; abdominal pains especially severe on turning in bed. Bowels regular; urine very scanty and high-colored. Fever from time to time,

but more in the last two days. Pain in the right iliac region. Appetite and digestion good.

25th.—During last forty-eight hours has had a dribbling of clear watery fluid from vagina. Tapped in linea alba one and a half inch below umbilicus, and one and a half pint of glairy, flocculent, citrine fluid escaped during an hour; and as much more during the ensuing thirty-six hours, when the wound was closed with a bit of strap. Relief decided; very slight inflammation about the puncture. Ordered quinia and iron.

After this patient was tapped seven times at intervals of from five weeks to six or eight days. The last tapping on October 10th. Fluids evacuated in all cases similar; citrine, glairy, and, towards the close of the tapping, almost puriform. Viscidity most marked in fluids obtained from the harder nodular masses of the left side of the body of the tumor. Punctures gave no trouble. The quantity of fluid drawn off at each tapping varied from three pints to two gallons. The puncture made in the last tapping was intentionally kept open by the patient, in view of the relief from oppression, now very urgent, afforded even at the inconvenience of the constant discharge. Notwithstanding the escape of so much fluid, secretion was so rapid that enlargement continued. Puffiness under the eyes; legs and feet cedematous and cold; appetite fair; digestion imperfect; colicky pains; pulse 85. Girth through umbilicus, thirty-four inches; from pubis to ensaiform cartilage, fifteen inches.

Nov. 10th, 1873.—Ovariectomy having been decided on, it was performed this day by Professor Logan, assisted by Professor Ford and by Drs. A. H. Cage, C. B. Galloway, and O. B. Galloway, jun., of Canton, Mississippi. The patient having been put under the influence of chloroform, incision was made extending from the point at which the last tapping was performed, and from which the discharge was still issuing, about an inch below the umbilicus to the symphysis pubis. The opening into the peritoneal cavity was commenced below, and extended upwards, so as to be certain not to cut into the tumor, which there was every reason to believe was adherent round the orifice of the last tapping. As a rule, it is advisable to open below even when the above condition is not present. The interval between the peritoneum and the tumor is much more easily found below, where the abdominal walls are reflected from the margin of the tumor to the pubes, than above, where tumor and abdominal walls are closely applied. When the peritoneum was slit open the expected adhesions were found to exist, but they were easily torn loose. Spencer Wells's large hollow trocar and canula, with gutta-percha tube attached, was then plunged into the tumor through the fistula, but so very much softened had the adjacent portions of the cyst-wall become, that it tore like wet paper, permitting the glairy and semi-purulent fluid to flow over the tumor. This complication was promptly met, however, by pressure applied to the lateral abdominal walls covering the tumor, which effectually guided the wave of fluid through the lips of the wound. By this prompt action but little of the escaping fluid entered the cavity of the peritoneum. Most of the cystic contents were evacuated in this way. An immense quantity was thus expressed, most of the other large cysts seeming to communicate with this opening. Indeed, at the last tapping a long canula and trocar had been used and projected in several directions, with the view of effecting just such a communication in order to make the tapping the more effective. After the fluid ceased to flow the usual exploration was made, and the tumor was found tightly and extensively adherent to the abdominal walls on each side. The mass was still so large that it became at once evident that an extension of the incision in the abdominal walls would be required. The incision was, therefore, at once continued upwards and around the umbilicus to about two inches above that point. It was then found that there was also one point of adhesion to the omentum. This was easily separated, and so were the far more extensive lateral connections already mentioned. In performing this part of the operation particular care was taken to effect the separation at the expense of the cyst-wall, rather than the normal tissues, and the separation was effected with much less trouble than had been anticipated. The tumor was then turned out of the abdomen, and found to be connected with the right broad ligament, by means of a pedicle about two

inches broad and about three-quarters of an inch thick. It was quite long enough for clamping, and one of Mr. Spencer Wells's clamps was provided, in case enucleation, which had been determined on, was found inadvisable. Insinuating the index finger through the middle of the pedicle, where it joined the tumor, the operator succeeded with perfect ease in carefully peeling each portion with its vessels from the surface of the former, and in a very short time the whole mass was everted without the loss of half a drachm of blood, and the shreddy pedicle was dropped back into the abdomen. There was some little hemorrhage during the operation, but it was mostly venous and from the abdominal walls, the veins in that position having been considerably distended, probably from the pressure of the tumor on the ascending cava. What fluid and blood had settled into the pelvic and abdominal cavity were carefully sponged out. The womb, the remaining ovary, and the other parts, were examined and found perfectly healthy; and the wound was closed by silk sutures extending through all the thickness of the abdominal parietes. The line of incision was then glued up with Richardson's colloid styptic; the abdominal walls were supported with long strips of adhesive plaster running across the wound, and extending well round the flanks, and the line of incision was covered with a piece of lint soaked in carbolic oil (1 part carbolic to seven of olive oil).

The patient was then conveyed from the operating-table and placed on her back in bed.

She recovered readily from the chloroform, and did not seem to suffer any marked degree of surgical shock. Pulse one hour after the operation, 120; skin almost normal; mental condition natural.

Tumor weighed, after evacuation of fluid, 16 lbs.; estimated weight of fluid lost during operation, say 8 lbs.; total estimated weight, 24 lbs. Examination by microscope and otherwise shows usual structure of the multilocular ovarian tumor.

The patient progressed favorably. On the tenth day the stitches were removed; union firm along the whole line of incision, except at one point, where a little suppurative action had occurred. An alum wash reduced this in a day or two. An abdominal waistcoat was applied to support the line of adhesion.

Dec. 1.—Progress very rapid and uncomplicated; patient sat up on the thirteenth day in bed, and was about her room on the eighteenth day. Afterwards continued to improve on cod-liver oil, quinia, and iron. A dull pain in the lower abdomen, felt after the operation, disappeared by degrees. She fattened remarkably, and on the fortieth day menstruated.

At the present writing, more than four months since the removal of the tumor, she is in perfect health.

ART. 205.—*On the Physiological Result of the Removal of both Ovaries.*

By Dr. KOEBERLE.

(*Montpelier Medical Journal*, January.)

The author states that in women in whom he has removed both ovaries comparatively little change has taken place. The genital organs remain excitable. The character becomes gentle and less excitable. The breasts are not at all atrophied. The women have no tendency to excessive corpulence, unless there has been a predisposition to obesity before the operation. There has been no alteration in the growth of the hair. The quality and pitch of the voice has not been modified. Perfect health has been the rule, but the catamenia have never reappeared.

ART. 206.—*On Pain in the Stomach.*

By WILSON FOX, M.D., F.R.S.

(The Diseases of the Stomach, 3d edit., London, 1872, 8vo., pp. 236.)

When pain in the epigastric region is complained of, it is often not easy to determine, in the first place, whether or not the painful feeling is really seated in the stomach, and if we come to the conclusion that it is, to satisfy ourselves as to the morbid condition which gives rise to it. On this point Dr. Fox observes:—

“The chief difficulty lies in the discrimination of pain of purely neuralgic character from that which exists in cases of ulcer, and in the early stages of cancer, and a satisfactory conclusion can be formed only by a very careful investigation of the etiological circumstances attending each individual case. Even with regard to these, exceptional conditions are so frequent as to invalidate almost every general rule that can be laid down.

“Purely neuralgic pain is more common in the earlier periods of life after puberty, and especially in the female sex, and is then often attended with other nervous phenomena; but, as has been remarked before, these patients are very liable to ulcer of the stomach. On the other hand, at more advanced ages, cancer may exist for years without any other symptoms than violent gastrodynia, which may be completely intermitting in its character, and may be unattended in the intervals of the attacks by any appreciable disturbance of the digestive functions.

“The relation of the pain to the state of the stomach with regard to food may often, however, as pointed out by Abercrombie, afford indications of some importance. Thus pain experienced when the stomach is empty is less common in ulcer and cancer than in the neuroses; while that following the ingestion of food has a gravity inversely proportional to the time which may elapse before the pain is felt. This, if occurring late, may be due to flatulence; though here the possibility of pyloric obstruction should warn us against a too hasty diagnosis. As a general rule it may be stated that even in the absence of hæmatemesis or of signs of pyloric obstruction, pain of great severity occurring early and continuing long after the ingestion of food, especially when associated with vomiting, and when combined with pain in the spine or scapular region, is always to be regarded with grave suspicion of its origin in organic disease.

“The indications obtainable by the effects of pressure in causing tenderness or the aggravation of pain already existing, though of some approximate value, are not such as can be certainly relied on as an absolute test of the nature of its cause. The uneasiness or pain caused by subacute or inflammatory action is almost invariably aggravated by this procedure, as is also that arising from ulcer and cancer. In cases, however, of the last-named diseases, much depends on the position of the lesion in the anterior or posterior walls of the stomach, and exceptional instances are recorded where even in these firm pressure has afforded relief. Purely nervous pain, on the other hand (independently of cases of superficial tenderness in the abdominal wall), is sometimes increased by gentle, but relieved by a firmer pressure; and pain from flatulent spasm is often markedly alleviated in the same manner.

“Some other affections which may simulate gastric pain deserve also a brief notice in this place.

“Pain in the course of the transverse colon is among the most frequent of these, and it is often associated with an amount of flatulent distension which may add greatly to the difficulties of diagnosis of its seat. There is, however, generally a distinct difference, especially on gentle percussion, between the notes to be elicited from the two organs, that arising from a distended colon being the less prolonged, and having a higher pitch. Pain from this source is seldom so much felt at the ensiform cartilage as in the right or left hypochondriac regions, and it frequently extends in the direction of the sigmoid flexure. It is also associated with colicky pains and irregular contractions, which may

be seen or felt by the hand, together with borborygmi, distension, and other signs of intestinal flatulence, and with migratory pains in other parts of the abdomen.

"Rheumatic pains in the abdominal muscles are another source of fallacy, which can be best distinguished by their superficial character, and by tenderness on pressure, and by pain excited by movement.

"Numerous instances, again, have been quoted by various writers of epigastric pain, depending on functional or organic diseases of the spinal cord. In the former class of cases, when affecting the skin, this is distinguished by the very superficial tenderness (which disappears on deeper pressure), by the discovery of other painful points in the course of the nerves affected, by the absence of all symptoms referable to the stomach, and by the coexistence of an hysterical diathesis; the distinctive characters of pain residing in the muscles have been already referred to. In the latter case the presence of spinal tenderness, as ascertained by cold, heat, pressure, etc., the coexistence of some perversions of the functions of sensation, or of motor power in the lower extremities, and even in the absence of the latter, the symmetrical character of the affection, and the relief by rest, will generally suffice to indicate (in the absence of symptoms referable to the abdominal viscera) the nature of the affection."

ART. 207.—*Foreign Bodies in the Female Urethra.*

By WILLIAM STOKES, Professor of Surgery, Royal College of Surgeons, Ireland.

(*Dublin Journal of Medical Science*, October.)

During the past four years there have been, by a singular coincidence, four cases in the author's hands of foreign bodies in the female urethra, these being, in all the cases, hair-pins. Their extraction, when the curved end of the hair-pin is first seen or felt by the surgeon, can generally be accomplished with facility; but when, as is usually the case, one or both points of the hair-pin are first met with, the reverse is the case. The extraction is then accompanied with very great difficulty, especially when one of the points of the hair-pin has penetrated the mucous membrane of the canal, and passed deeply into the surrounding tissues. When this occurs, it is hard to lay down any precise rules as to the method the surgeon should adopt to extract them; but, generally, Mr. Stokes has found the best plan to adopt is to lay hold of any visible portion of the hair-pin with a long-handled forceps, and to force it backwards towards the bladder, until one or both points of the foreign body become visible. When these appear, they should be seized by an assistant with other forceps, and then extracted. But when, as sometimes happens, the hair-pin becomes much bent and altered from its original form, this manoeuvre is not possible, and it must then be left to the discretion of the surgeon to adopt whatever plan his own ingenuity may suggest.

Of the cases above alluded to, the most remarkable was one¹ that was under observation in June, 1869. The chief peculiarities of the case arose from the length of time the foreign body must have been lodged in the urethra or bladder, and the enormous deposit that was found upon it. In this case, Mr. Stokes believes that the pin was originally inserted with the curved end towards the bladder, that it passed up into that viscus, and remained there sufficiently long for it to become so extensively encrusted as it was, and that eventually it made its way out with the curved end foremost, until, at the office of the urethra, it became impacted and caused retention of urine.

(*From Notes taken by Mr. A. Vesey.*)

Mary H., aged twenty-eight, by occupation a servant, was admitted into the Richmond Hospital on June 8th, 1869, suffering from retention of urine, and

The pin was, in this case, in the author's absence, removed by the clinical clerk.

great pain in the region of the bladder and vagina. The retention, she stated, had lasted for a considerable time. On examination, the bladder was found distended, and great pain was experienced when the least pressure was made over it. The parts about the orifice of the urethra were found swollen, and protruding slightly through it, the curved end of a hair-pin. On being asked how it got there, she said she did not know. The patient was then laid on a table, the legs drawn up and separated, the forefinger and thumb of the left hand placed at each side of the urethra, so as to prevent laceration during the extraction. The head of the pin was then passed with a forceps, and gradual traction made, but it was found firmly fixed, owing to the large amount of incrustation surrounding the foreign body. It was eventually, however, extracted without any tearing of the urethra. A large amount of urine was then drawn off. A few days subsequently the patient left the hospital and returned home.

ART. 208.—*Acupressure in the Operations of Castration and Amputation of the Penis.*

By WILLIAM STOKES, Professor of Surgery, Royal College of Surgeons, Ireland.

(*Dublin Journal of Medical Science*, October.)

Although acupressure, as a means of arresting hemorrhage, is not held in such repute amongst many operating surgeons as it was during the later years of Sir J. Y. Simpson's life, there are, in the author's opinion, some surgical operations in which its advantages are superior to any of the other methods of arresting hemorrhage that the surgeon makes use of. The operations to which Mr. Stokes thinks it is specially applicable are castration and amputation of the penis; in the latter operation its use being specially indicated in cases where the disease necessitating the operation extends very high up, and close to the pubes. In such cases, as well as in those in which a high division of the cord is indicated in the operation of excision of the testis, the difficulties the surgeon has to contend with in arresting hemorrhage, in consequence of retraction of the bleeding vessels, are, at times, extreme, and the operation then becomes a source of grave anxiety to the surgeon, and is fraught with much peril to the patient. The method, which may be termed *acupressure en masse*, was not described, either by the late Sir J. Y. Simpson, or by Professor Pirrie, in his interesting memoir on Acupressure, nor is it original with him, as Mr. Stokes saw it practised some years ago by his friends, Mr. Porter and Professor Macnamara, in the Meath Hospital, when he was officially connected with that institution. The method is a modification of the third method of acupressure, as described by Professor Pirrie, the difference being that, instead of one bleeding vessel included between the pin and the wire, there are several, together with, necessarily, the intervening tissues. The procedure is, unquestionably, less painful than ligature *en masse*; less tedious than, and Mr. Stokes believes, equally efficacious as the deligation of each vessel separately. It is more secure than the method of charring by a red-hot iron the cut surface of the cord, and, in the author's experience, much more so than torsion of the vessels, and it has an advantage that none of the others possess, in addition to the rapidity and facility with which it can be applied, and that is, that it effectually prevents the possibility of the recurrence of the unfortunate accident of retraction of the cord into the abdomen, before the hemorrhage has been effectually arrested. Mr. Stokes has employed this method of acupressure in four out of six cases of castration, and in three out of seven cases of amputation of the penis. In these three cases, owing to the large amount of disease present, the amputations had to be performed close to the pubes. In all these cases the results were most satisfactory.

Several cases are reported which prove how effective this method of acupressure is in arresting hemorrhage during the operation of excision of the testis. In some of the cases there was no hemorrhage of any consequence whatever, either during or subsequent to the operation.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 209.—*On the Supposed Rheumatic Paralysis of the Radial Nerve.*

By Dr. PANAS of Paris.

(Archives Générales de Médecine, Juin, 1873.)

"1. In an immense majority of cases, not to say in all, idiopathic paralysis of the radial nerve is due to slight and temporary pressure on the nervous trunk.

"2. This compression acts invariably on that portion of the nerve which is superficial and resting on a resistant portion of the humerus. Hence the exact limitation of this paralysis.

"3. The compressing agent is represented by the weight of the body, or rather the head supported on the arm, which serves as a pillow.

"4. Prolonged decubitus on the side is an indispensable cause of the production of paralysis.

"5. This decubitus is almost always taken in profound sleep.

"6. Intoxication and extreme fatigue act in the same way as lethargic sleep, and therefore favor the production of paralysis.

"7. The cause of the compression of the nerve may at first be overlooked. The development of this paralysis is sometimes slow and progressive.

"8. I have never yet met with an instance in which the paralysis could be attributed to cold, and the number of cases of radial paralysis that I have observed exceeds thirty.

"9. Anatomy, pathological physiology, as well as the etiology and symptoms of this paralysis compared with paralyzes due to mechanical causes, concur in assigning to it a place among the latter.

"10. Cold and rheumatism cannot explain the peculiarities presented by radial paralysis, whilst all may well be explained by admitting compression as a cause.

"11. This form of paralysis is invariably and rapidly curable by electricity, a fact which proves that the compression of the nerve is neither forcible enough nor sufficiently prolonged to cause any morbid change. Conservation of the electrical contractility of the muscles demonstrates the same thing."

ART. 210.—*Some Remarks on Onychia Maligna.*¹

By WILLIAM MACCORMAC, F.R.C.S.

(British Medical Journal, August 30.)

Onychia maligna is a rather common disease in Belfast, where Mr. MacCormac formerly practised; it affects principally the girls employed in flax-spinning mills. During the ten years from June, 1863, to June, 1873, there were 217 cases of this malady among the patients of the Belfast General Hospital, being 2.2 per cent. of the total surgical out-patient cases; 115 occurred in girls between the ages of ten and fifteen, and 63 between the ages of fifteen and twenty. One hundred and eighty-four were mill-workers. In his experience, Mr. MacCormac had found local applications and evulsion productive of only temporary benefit. The only efficient treatment was the complete excision of the secreting stratum at the root of the nail; a severe operation, and one which required local or general anæsthesia. Lately, the author had read a monograph by Dr. Vanzetti of Padua, advocating the plan, proposed originally by Dr. Morelloose of Ghent, of applying powdered nitrate of lead to the ulcerated surface. Dr. MacCormac had had no opportunity of testing this

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

remedy among the patients at St. Thomas's Hospital; but, at his instance, it had been used by Dr. Scott in fifteen cases in the Belfast Hospital, with most satisfactory results. According to Dr. Scott, from fourteen days to a month were sufficient for a complete cure. All pain ceased from one to three days after the first application; and the swollen irritable margin of the ulcer gradually disappeared, leaving a healthy granulating sore.

ART. 211.—*Amputation at the Wrist Joint.*

By RICHARD BARWELL, F.R.C.S.

(*British Medical Journal*, August 30.)

Mr. Barwell divided his subject into three heads: 1. The diseases likely to call for this operation; 2. His method of its performance; 3. The advantages of this method. Amputation at the wrist joint was most likely to be called for after severe suppurative of tendinous sheaths, ending in fungoid proliferation of cells, invading and destroying the tendons, and, in great measure, the carpal bones. Mr. Barwell described his method of operation. An incision is carried from the outer point of the scaphoid bone, downwards, across the ball of the thumb to the fold of skin formed in the palm, by flexing the fingers. In this fold a transverse incision is made to the outer side of the fifth metacarpal bone; from the end of this a third incision is brought along the outer margin of that bone to the pisiform. At the back of the wrist, on a level with the joint between the two rows of carpal bones, a transverse cut connects the two perpendicular ones. These two flaps—a short posterior and a long anterior—are dissected up, the knife being carefully kept close to the palmar fascia and muscles of the thumb and little finger, so as to spare the vessels. When the flaps are turned back on the forearm, the surgeon feels for the pisiform bone, and, placing his edge immediately above it, severs the hand from the forearm; then, removing the soft parts for a short distance on the outer side of the styloid process, the operator, with a pair of bone-forceps, cuts off as much of this as may render the end of the bony stump plain and level. The ulnar, radial, and interosseous arteries being secured, the dressing of the stump is effected simply by turning the anterior flap back, sewing its end to that of the anterior, and the edges together. The author stated that the following were the advantages of this mode of operating: 1. The flaps fit accurately; 2. The chief flap is formed of dense tissue accustomed to pressure; 3. There are no ends of obliquely cut tendon or nerve on the stump; all these parts are cut off higher and straight; 4. The stump is square and level; 5. The operation is easier and quicker, there being no possible hitch in the separation of the wrist from the arm.

Mr. Dolman (Derby) pointed out the rarity of cases suitable for the operation.

Mr. Gant (London) feared the loss of supinating power by the section of the styloid process of the radius.

Mr. Hulke and Mr. Hey asked wherein the operation differed from Teale's rectangular amputation.

Mr. Pridgin Teale (Leeds) said that the operation differed from that of his father in the long flap (anterior) containing the principal vessels and nerves, which his father always placed, by preference, in the short flap.

Mr. Barwell, in reply, admitted the rarity of cases suitable for the operation. The styloid process of the radius was removed only at its tip, and the insertion of the supinator longus was left untouched. The operation which he suggested differed further from Teale's amputation, in the stump being covered by tough skin, rendering it more analogous to Pirogoff's or Syme's amputation of the foot.

ART. 212.—Excision of the Extremity of the Humerus as a Remedial Measure in Cases of Anchylosis of the Elbow-joint resulting from Injury.

By PATRICK HERON WATSON, M.D.

(*Edinburgh Medical Journal*, May.)

Dr. Watson states that in his experience the results of excision of the elbow-joint in cases of anchylosis resulting from injury have not been so favorable as where disease has been the occasion of operative interference.

"On the one hand, too great a degree of mobility in every direction has been the result; on the other, the union between the divided ends of the bones has been more complete than could be desired, and the movements have been commensurately imperfect."

Hence he was led in the summer of 1871 to operate on a boy by a new method which he conceived "would fulfil every indication, so far as the preserving muscular attachments was concerned, and at the same time enable to effect the removal of as much of the osseous textures as might appear to be necessary. The speculative reasonings which led to my adoption of this method were these:—

"It was quite obvious that, as in most cases of fracture into the elbow-joint, the humerus was the bone alone affected; no changes in the osseous structures of the radius and ulna necessarily resulted from any injury the humerus had sustained; nor even should the radius and ulna be involved in the injury. did the resulting efforts at repair constitute a condition which implied any need for the removal by operation. It was also obvious that the removal of the upper extremity of the ulna necessarily impaired the perfection of the muscular attachments—viz., of the *triceps* and the *brachialis anticus*, and indirectly the power of the *biceps* in flexing the forearm. It was clearly, therefore, very desirable that neither the radius nor ulna should be interfered with, if removal of the extremity of the humerus alone would suffice to remedy the anchylosis.

"The operation I devised for carrying out these theoretical requirements consisted in the following steps: (1.) A linear incision to be made over the ulnar nerve to the inner side of the olecranon process rather longer than that usually employed in the ordinary excision of the elbow by linear excision. (2.) The ulnar nerve to be turned over the inner condyle by careful dissection. (3.) A probe-pointed bistoury to be introduced into the elbow-joint in front of the humerus, and then behind that bone, and carried upwards, so as to divide the upper capsular attachments in front and behind. (4.) A pair of bone-forceps to be next employed to cut off the entire inner condyle and trochlea of the humerus, and then introduced in the opposite diagonal direction, so as to detach the external condyle and capitulum of the humerus from the shaft. (5.) The truncated and angular end of the humerus to be cleared, turned out through the incision, and smoothed across at right angles to the line of the shaft by means of the saw, whereby (6) room might be afforded, so that partly by twisting, partly by dissections, the external condyle and capitulum are removed without any division of the cutaneous tissues on the outer side of the arm.

"This operation, it will be observed, by a single linear incision upon the inner side of the arm, enables the operator to drain efficiently the entire area of operation, and through an incision of very moderate limits to remove the entire expanded extremity of the humerus without interfering with any muscular structures, except those of the forearm, which take origin from the osseous tissues actually excised. The result in this instance was perfectly satisfactory, the movements of the forearm being restored so as to maintain a degree of muscular power not usually observed in cases of ordinary excision of the elbow."

Dr. Watson has since practised this mode of operation five times (six in all), and he states that, "with a single exception, a satisfactory result accrued

immediately from this operation. In this single case, when an attack of osteomyelitis supervened upon the operation, and osseous union was threatened between the humerus and bones of the forearm, the secondary removal of a further slice of the humerus afforded an ultimately satisfactory issue.

"The merits of this operation—which, so far as my observation and reading go, is an original one—consist: (1.) In leaving the attachments of the *triceps* and *brachialis* undisturbed, affording, therefore, a degree of leverage in the movements of the forearm which cannot be attained when the olecranon, or any portion of the upper end of the ulna, is interfered with or removed. (2.) In limiting the area of operation almost exclusively to within the capsular ligament of the elbow-joint, which seems to secure more speedy healing of the wound than would otherwise occur. (3.) In securing, by the line of incision being internal and posterior, less ultimate surface deformity, a more direct drain for discharge, and a more ready access to the ulnar nerve than by any other method.

"One objection only can be taken to this mode of procedure, viz.: that it does not afford a ready access to the external lateral ligament of the elbow-joint. This, however, is of trivial importance, if the plan of procedure I have laid down be rigorously carried out in the division and removal of the end of the humerus, viz.: (1.) The oblique division of the condyles of the humerus, from above downwards, so as to cut through the articular surface by means of bone-pliers between the trochlea and capitulum of the humerus. (2.) To cut off the capitulum and external condyle obliquely from the shaft by means of pliers applied from below upwards. (3.) To turn out the end of the shaft and cut off as much of its truncated and conical extremity as may be deemed requisite; and, lastly, to dissect and twist away the capitulum and external condyle from their remaining ligamentous and other attachments.

"It may be urged that while this may be easy enough when there is only partial rigidity of the elbow-joint, it is impossible to effect it in cases of complete and absolute ankylosis of the elbow-joint. But such an objector must not fail to recollect that absolute ankylosis of the osseous kind is not a common result of fracture into the articulation, especially when passive motion has been attempted to be kept up after the accident; that in most of these cases it is rather due to the altered form of the osseous surfaces resulting from the fracture and displacement, and that at most the ankylosis is usually fibrous in its character.

"Again, even were it present, forcible flexion and extension under chloroform will, in the great majority of cases, effect such a degree of solution of continuity as will enable the operation to be carried out in the manner already described without any real difficulty. Should any case occur of very dense osseous union of the articular surfaces, rendering the risk of fracture of the olecranon or of the shaft of the humerus, a reasonable danger possibly involved in such strenuous effort, then a transverse section of the humerus with bone-pliers through the condyles, excision of a portion of bone above this level, and piecemeal excision of the ankylosed condyles themselves, by means of the forceps and gouge, would afford an alternative means calculated to remove any ordinary difficulties; while the conversion of the operation into a complete excision of the elbow-joint may always be had recourse to, should insuperable obstacles be found to prevent the execution of the more limited resection."

ART. 213.—*On Excision of the Elbow-joint.*

By C. F. MAUNDER, F.R.C.S., Surgeon to the London Hospital.

(*Operative Surgery*, 2d Edition, pp. 376, London, 1873.)

In excising the elbow-joint, Mr. Maunder writes:—

"After the usual longitudinal incision, I next let the knife sink into the *triceps* muscle, and divide it longitudinally into two portions, the inner one of which is the more firmly attached to the ulna, while its outer portion is continuous with the *anconeus* muscle, and sends some tendinous fibres to blend with

the fascia of the forearm. It is these latter fibres that are to be scrupulously preserved. Thus, in concluding the early steps of the operation, two chief points have to be remembered instead of one (care for the ulnar nerve), as hitherto advised. The ulnar nerve, often unseen, must be lifted from its bed and carried over the internal condyle to a safe place; and then the outer portion of the triceps muscle, with its tendinous prolongations, the fascia of the forearm and the anconeus muscle, must be dissected up, as it were, in one piece, sufficiently to allow of its being temporarily carried out over the external condyle of the humerus."

ART. 214.—*On Dislocations of the Clavicle and Humerus.*

By WILLIAM BROWN, Esq., Callington.

(*British Medical Journal*, August 30.)

In 1846, Mr. Brown reported a case of dislocation of the clavicle at its sternal end; and since that time he had had three other cases under his care. In all, the dislocation was forwards. He had met with only one distinct case of dislocation at the acromial end. In the treatment of the sternal dislocation, he generally applied a long strip of emplastrum roborsans obliquely from below upwards over the injury and over the top of the shoulder; after this a wedge-shaped pad was placed in the axilla, a figure-of-8 bandage applied, and the elbow confined firmly to the side. He used the same treatment in his case of acromial dislocation, and also in fracture of the clavicle. In the reduction of dislocation at the shoulder joint—of which Mr. Brown had had many cases—he employed a method which he considered to be, in a great measure, new; it was always successful, and did not require the aid of chloroform. The patient being placed with his sound side resting firmly against the back of a strong chair, and held there by a jack-towel, steady extension was made downwards and outwards by means of another towel fixed above the elbow. During the extension the head of the bone is guided into its place by the surgeon's hands. Mr. Brown had found injuries of the elbow very frequent, especially in boys; while fractures of the shaft or of the upper third of the humerus were rather rare. The injuries of most frequent occurrence were dislocation—simple or complicated with fracture—of the ulna backwards. Mr. Brown also related the case of a boy, in whom the lower epiphysis of the humerus had become separated from the shaft, which projected through the integument. The projecting portion of bone was sawn off; and after some threatening symptoms, the boy recovered with a useful limb.

ART. 215.—*Sub-spinous Dislocation of Shoulder, and Reduction by Manipulation.*

By H. C. MARKHAM, M.D., of Winthrop, Iowa.

(*American Journal of the Medical Sciences*, October.)

On January 25, 1873, Dr. Markham was called to visit L. N. B., a large and muscular man, who was suffering much pain in his right shoulder, and gave evidence of having received severe injury of the part. He stated that while riding in his cutter his horse became unmanageable, and he was thrown out, alighting upon his left side. He still with his right hand retained his hold upon the reins, and while in this position, by a spring of his horse, his arm was jerked violently upward. Half an hour afterwards Dr. Markham reached him, and found the arm dropped to the side and entire immobility present. The contour of the shoulder was decidedly unique; its superior aspect presented a broad flat surface, slightly sloping towards the back. A dinner plate could have easily rested upon this "plateau." Chloroform was administered and reduction by extension attempted; but in spite of the most protracted and varied endeavors the luxation persisted. At length Dr. Markham decided to adopt the plan so successful in hip-joint dislocation—viz., that by manipula-

tion. Grasping the humerus with his right hand, and with the left steadying the scapula, the arm was brought up nearly to the side of the head; he then carried it obliquely backwards and downwards, nearly describing the movement that caused the accident (except in reverse order). As the arm reached a position which pointed to the opposite hip a distinctly audible snap was heard, which with the sudden restoration of the natural rotundity of the shoulder gave evidence that reduction was accomplished. The subsequent tenderness was extreme and protracted, showing that much laceration attended the injury.

Dr. Markham remarks:—

"All surgical authors agree that this form of dislocation is very rare, and it is claimed by some that it is never entire. But cases reported previous to this one prove that the latter actually occurs, and no joint was ever more completely dislocated than the case just reported, as the head of the humerus was felt against the spine of the scapula, and somewhat higher than is usually described. The mode of reduction, which alone seemed capable in this case of being made successful, was that by manipulation. In elevating the humerus the spine of the scapula served as a fulcrum, at the same time the opposing contraction of the supra-spinatus muscle was overcome, and the great pectoral muscles thus given opportunity to move the head into its normal position. Whether this be the correct theory or not, I am positive that it is the right procedure in these cases, and that all other methods are by far more difficult."

ART. 216.—*On Tumors of the Scapula.*

By Dr. DEMANDRE.

(Paris, 1873.)

Tumors of the scapula are more frequent than might be supposed from the small number of cases recorded in France and England. The most frequent forms are cancer and enchondroma.

They never involve the scapulo-humeral articulation.

The starting-point in almost all cases is some thick portion of the bone, as the spine or the axillary border.

Though they may be easily diagnosed, it is always difficult, and in some instances even impossible, to differentiate them from one another.

Their proper treatment consists almost exclusively in ablation of the morbid growth, with more or less resection of the scapula.

These resections have resulted in a decided cure in a little more than half the number of cases. In almost all the remaining cases the failure was attributable to relapse occurring long after the operation and local cure.

ART. 217.—*Rupture of Axillary Vein during Efforts at Reduction of Dislocated Shoulder of Six Weeks' Standing.*

By D. HAYES AGNEW, M.D.

(*Philadelphia Medical Times*, August 16.)

Dr. Agnew reports the following case of this rare accident:—

The patient, a female aged sixty years, suffered a sub-coracoid luxation of her right shoulder. Several unsuccessful attempts at reduction had been made before she applied to Dr. Agnew for treatment. The dislocation, which was now of six weeks' standing, Dr. Agnew endeavored to reduce by the method of LaMothe. Failing in his first effort, he tried again, having attached a fillet to the arm. Steady and persevering extension was exerted for several minutes, while an assistant's hand was held in the axilla to guide the head of the bone towards the glenoid cavity. Just after this second effort was completed without success, a sudden and rapidly forming swelling appeared over the right pectoral region, distending in an instant the entire right breast, rendering it exceedingly prominent, and forming a firm but fluctuating tumor.

Simultaneously appeared the most alarming symptoms of marked alteration in the circulation. The patient instantly became cold, clammy, and collapsed; respiration ceased, the eyelids were half closed, and the heart's action was barely perceptible over the apex, and not at all at the radials. Professor Agnew's thumb at once compressed the subclavian artery, while the tongue was drawn forward by a tenaculum, and cold douches, ammonia, artificial respiration, etc., instantly tried. At first it seemed that the patient would die in a condition of fatal syncope; but by the opportune presence of a strong electric battery, the current was quickly passed along the phrenic nerves, and in a few moments feeble respiratory efforts became visible. The application was continued for fifteen minutes, at the end of which time the patient had rallied so that the pulse was plainly perceptible at the wrist, and the surface commenced to show signs of warmth and life.

Preparation had meanwhile been made to ligate the subclavian, but upon removing the pressure it was found that the pulse could be felt at the wrist with a force equal to that of the other side; that the tumor was not tense and distended, and that it did not pulsate, neither did it seem to be filling with any rapidity or force.

The conclusion was therefore educed that the axillary or some other large vein had been ruptured, rather than the artery. No small vessels could have yielded so large and rapid a hemorrhage. Firm compresses were therefore applied over the swelling, and confined by a broad bandage, while pressure was kept up for two hours upon the subclavian artery, in order to lessen the supply of blood coursing through the arm.

Meanwhile stimulants were freely administered, and artificial heat constantly applied to the extremities, and in three hours reaction was established to such an extent that the patient seemed out of immediate danger.

The swelling, which was accurately defined by the pectoral fascia, extended slowly backward, but did not increase in tenseness. The patient passed a comfortable night, complaining, however, of stinging pains in the arms and breast, but with no further symptoms of depression. From this time onward her improvement was rapid, the pain and swelling gradually subsiding, and in ten days she was discharged from the ward. The blood, gravitating downward and backward below the fascia, finally made its appearance beneath the skin, where it remained until it was absorbed, weeks afterwards. Compression was continued for several weeks, followed by stimulating liniments; and now, ten weeks afterwards, having declined any further attempts at reduction, she has an arm which, although stiff and somewhat painful, seems to be forming for itself a new articulating cavity upon the inferior costa of the scapula.

Dr. De Forrest Willard appends to the report notes of twenty-three recorded cases of rupture of an axillary vessel produced by efforts at reduction of old dislocations of the shoulder. Of these cases seventeen are recorded in Hamilton's *Treatise on Fractures and Dislocations*, 4th edition, pp. 563-4; 3 in Erichsen's *Science and Art of Surgery*, Philadelphia, 1869, p. 307; 1 in *American Journal of Medical Sciences* for April, 1865, p. 498, and 1 in *Medical News*, for April, 1873, p. 58. Dr. Willard also includes Adams's case (*Holmes's System of Surgery*, vol. ii.) of rupture of the artery by the same force which caused the dislocation, and to which should be added the similar cases reported by Bérard and by Sir Astley Cooper (*Dislocations and Fractures*, Philadelphia, 1851, p. 334). In Mr. Callender's excellent paper on this subject (*St. Bartholomew's Hospital Report*, vol. ii. p. 96) there may be found notes of two cases not included in Dr. Willard's list. One of these is a case, like Dr. Agnew's, of rupture of the axillary vein only, in an aged female, after efforts at reduction according to White's method. In the other case the artery was ruptured by the direct force of twelve or sixteen men, under the direction of a "bone-setter."

From a study of the cases recorded, Mr. Callender (*loc. cit.*) concludes that "the occasional occurrence of this accident does not rule against the recognized practice of attempting the reduction of old dislocations, but should make us cautious of using movements calculated to overstretch the vessel, such as circumduction and extreme tension, as by White's method."

ART. 218.—*Successful Amputation through the Shoulder-joint.*

By WILLIAM I. WHEELER, M.D., M.R.C.S.I., Surgeon to the City of Dublin Hospital, etc.

(*Dublin Journal of Medical Science*, September.)

Primary amputation through the shoulder-joint being of rather uncommon occurrence in civil practice, has induced Dr. Wheeler to publish briefly the following interesting case:—

"Thomas Cronnally, aged twenty-five years, was admitted into the City of Dublin Hospital, under my care, about five o'clock on the evening of the 7th of January of this year, suffering from a compound, comminuted, complicated fracture of left humerus. It appears he was engaged as a laborer on the Kings-town pier, and on the above-named evening was pouring some oil on the wheels of a steam crane, when the sleeve of his coat caught in the cogs of the wheels, and forcibly dragged in his arm, nearly tearing it from his body."

"*Condition of Limb.*—There was an extensive laceration of the soft parts from just below the elbow-joint to almost the acromion process of the scapula, the arm being more torn on the lower and internal than on the upper and external aspect. The brachial artery was completely severed in three places; the cephalic vein and median nerve were torn across; the bone was broken in four places; the highest fracture being about one inch below the tuberosities, the lowest about an inch and a half above the elbow-joint. The hand was uninjured, and forearm also, except at its upper portion.

"When I saw him, about three-quarters of an hour after admission, he was in a state of collapse, his pulse quick and feeble; there was some blood trickling from the torn vessels. I ordered warm jars to his feet, and some whiskey and water, and applied a piece of bandage, with a cork stitched in the centre, round the armpit, the cork pressing on the axillary artery, having knotted the ends firmly above the shoulder. This controlled almost entirely the hemorrhage, which had continued comparatively freely, considering the lacerated state of the vessels. On account of the excess of the shock I deemed it expedient not to remove the limb immediately, and ordered stimulants to be carefully administered. At half-past nine o'clock, the patient having considerably recovered from his former exhaustion, I proceeded to operate, having first put him under the influence of ether, the time occupied in procuring anesthesia being ten and a half minutes, and the amount used five ounces, the period he was completely under its influence being sixteen and a half minutes, and the temperature being about 60° F.

"The subclavian artery being compressed, I commenced by making an oval incision, having the deltoid muscle for a flap, and through an opening in the capsular ligament passed in two of my fingers, and turned out the head of the humerus, dividing the attachments to the greater and lesser tuberosities, and then, keeping my knife closely applied to the bone, I made a second flap, corresponding to the one already formed, the axillary artery having been seized along with the flap by an assistant before dividing it. I did not remove any cartilage that may have been attached to the glenoid cavity, such being unnecessary. The axillary artery was tied at once, but some difficulty was experienced in securing two scapular vessels. The ligature used was silk. Some slight hemorrhage continued after the deligation of the arteries from an angle of the wound posterior to the glenoid cavity of the scapula, which was plugged with lint steeped in carbolic oil, and having shortened some cords of the brachial plexus of nerves, I brought the flaps together with points of suture. If any synovial fluid happened to be secreted, there was sufficient aperture for its escape. I preserved a portion of integument which had been bruised, in hopes that it might recover its vitality. A pad was now placed over the stump, and a roller bandage kept it in position. The patient was put to bed, with hot water jars to his feet, and ordered thirty minims of tincture of opium. At two o'clock A. M. I saw him again; his pulse was 120 per minute; there was some

slight oozing from the angle of the wound, which was plugged; consequently I placed a compress over the dorsum of the scapula, beneath the spine, which stopped the hemorrhage.

"*Daily Notes.*—He got about two hours' sleep after the operation; pulse 125 per minute; ordered ice to suck, claret and beef-tea. During the day he slept about four hours. At ten o'clock P. M. he was better, and complained of headache. Ordered thirty grains of hydrate of chloral.

"9th.—Pulse 120, has considerable pain in stump. Compresses, which were applied over scapula, removed; ice, claret, and beef-tea continued.

"10th.—I opened the stump, which was looking healthy, and took off the dressings; the plugs were taken out of the angles of the wound, and the stump was dressed with carbolic oil. I visited him at nine o'clock P. M., and ordered a chloral draught.

"11th.—Has slept well after his draught, but complains of some uneasiness over region of abdomen, bowels not having acted for four days. Ordered aperient pills, to be followed by an enema if necessary.

"12th.—Patient had a good night. The medicine prescribed had the desired effect. One of the ligatures applied to the scapular vessels separated and came away in the dressing.

"On the 15th another ligature came away.

"7th February.—The axillary ligature became detached. The portion of integument I endeavored to preserve sloughed away. The stump looks very healthy; patient ordered chicken for dinner, and a mixture as follows: *R.* Sulphate quiniæ, grana xxv; acidi sulphurici diluti, ʒss; aquæ destillatæ, ʒvj. *M.* Capiatur cochleare amplum ter quotidies.

"8th.—Ordered to get up for two hours.

"From this date he gradually gained strength till he was discharged on the 1st of April, perfectly recovered; and notwithstanding the mutilated condition of the limb, and the consequent difficulty of procuring suitable flaps, there is a well-covered stump."

(D) CONCERNING THE LOWER EXTREMITY.

ART. 219.—*Operations on the Foot.*

By HENRY HANCOCK, F.R.C.S.

(*On the Operative Surgery of the Foot and Ankle Joint*, pp. 473, London, 1873.)

In discussing the operations on the foot, Mr. Hancock gives the five following rules:—

(a.) That we should perform our operation as close to the diseased or damaged structure, and preserve as much of the foot, as possible with safety to our patient.

(b.) That, where practicable, we should cut through the tarsal bones with a saw in preference to disarticulating them.

(c.) That we should avoid the destruction of joints wherever we can do so.

(d.) That disease of one articulating surface does not of necessity demand the removal of the entire bone: as, for instance, when confined to the tarsometatarsal joints, or to the joints between the cuneiform or scaphoid, it is not always necessary to remove the whole of the cuneiform bones on the one hand, or of the entire scaphoid bone on the other.

In such cases, however, the diseased portion should be removed by a clean cut made with a saw, and not bruised off by a gouge or chisel.

(e.) That whilst the openings in the skin cannot be relied upon as indicating the exact situation of the bone mischief, the existence of these openings, even if there be several, or the thickening and discoloration of the skin and soft parts, do not of themselves contra-indicate operative procedure, since, as pointed out by Sir W. Fergusson, the soft parts, when relieved of the source of irritation, will speedily return to their natural condition.

ART. 220.—*On Sub-astragaloid Dislocation of the Foot.*

By WILLIAM MACCORMAC, F.R.C.S.

(St. Thomas's Hospital Reports, vol. iii., 1873.)

The author refers to the confusion which prevails among surgical writers as to the nomenclature of the various dislocations met with in the neighborhood of the ankle-joint, and expresses his preference for such a classification as Broca's; in fact, as pointed out by Mr. MacCormac, there are three distinct forms of displacement which occur in this region, and which should receive distinct names. Thus there may be a dislocation of the entire foot at the tibio-tarsal joint—properly called a dislocation of the foot or ankle; the astragalus may remain in place, while the rest of the foot is displaced backward or to either side—sub-astragaloid dislocation; or the astragalus itself may be separated from all its connections, in which case alone can there properly be said to be a dislocation of this bone. The sub-astragaloid luxation is believed by Mr. MacCormac to be more common than is often supposed, and he gives in the paper now under consideration details of four cases which have occurred under his own observation, and shows that several cases which have been described by Cooper, Chassaignac, and others, as dislocations of the astragalus, were really examples of the form of injury in question. With regard to the *treatment*, Mr. MacCormac judiciously advises that, if reduction be found impracticable even with the aid of tenotomy, the surgeon should temporize, reserving excision of the astragalus as a secondary operation, should it be found necessary.

ART. 221.—*On Perforating Ulcer of the Foot.*

By Dr. DUPLAY and M. MORAT.

(Archives Générales de Médecine, Mai, 1873.)

1. *Le mal perforant* is an ulcerative affection of the foot, which is associated with a degenerative lesion of the nerves of this region.
2. The degeneration of nerves on which the ulceration immediately depends has many diverse causes: lesions of the cord or spinal ganglia, section, compression of large nervous trunks, morbid changes in the extremities of nerves.
3. The ulcer, when once established, is accompanied by inflammation affecting all the tissues of the affected foot. These lesions sometimes extend very far from the starting point of the disease (endarteritis).

ART. 222.—*Senile Gangrene of the Foot cured by the Oxygen Bath.*

Under the care of Dr. LÉON LABBÉ, at the Hôpital la Pitié.

♦ *(The Lancet, August 2.)*

This case is eminently illustrative of the good effects of the oxygen bath in cases of senile gangrene. The patient was a man of about fifty. The case began with atrocious pain in the toes of the left foot, and the large toe and the next one soon assumed a dark-red color, the patches extending in small ribbon-like lines to the articulation of the foot and leg. It was impossible to mistake the beneficial effects of the application of oxygen—the symptoms were almost instantaneously amended. The pain ceased immediately. On removing the oxygen experimentally, the pain returned and the other symptoms got worse. An eschar formed on the large toe has now fallen, and all that is at present left of the disease is a slight pinkish hue of the two toes, extending a little up the foot.

ART. 223.—*Observations on the Surgical Treatment of Ingrowing Toe-Nail.*

By **GEORGE STILWELL.**

(Pamphlet. London: Churchill, 1873. Pp. 8.)

In the treatment of ingrowing or infleshed toe-nail Mr. Stilwell treats not the nail, as has hitherto been the custom, but the flesh around the nail. He finds the edge of the nail with the probe, and then removes the whole of the granulations and hypertrophied cellular tissue on both sides, if requisite.

ART. 224.—*On Puncture and Aspiration in the Treatment of Diseases of the Knee.*

(*Gazette Hebdomadaire*, No. 22, 1873.)

M. Després, in the month of May, brought before the Surgical Society of Paris a report of a commission appointed to consider a communication from M. Dieulafoy on the treatment of effusions into the knee by puncture and aspiration. M. Dieulafoy's memoir gave reports of twenty-two patients on whom puncture of the knee had been performed sixty-five times. As the author dealt only with serous, sero-sanguinolent, and purulent effusions, a case reported by M. Dubrenil could not be overlooked, since in this the effusion was one of blood complicating a fracture of the patella. M. Dieulafoy does not puncture in cases of this kind.

If the duration of treatment be considered, it will be found that in the majority of cases the new method does not bring about cure in a shorter period than the classical treatment. In some cases, however, reported by M. Dieulafoy the rapidity of the cure was remarkable.

The quantities of fluid obtained by aspiration were moderate: 60 grammes in traumatic hydrarthrosis, 70 grammes in rheumatic hydrarthrosis, 40 grammes in purulent effusions.

Re-production of the effusion was observed in several cases, and puncture performed twice, thrice, and four times.

The report of M. Després shows that in traumatic hydrarthrosis the old method gives results just as good as those of the aspiratory method.

In rheumatic hydrarthrosis aspiratory puncture has no utility.

In gonorrhœal arthritis blistering is to be preferred.

In chronic hydrarthrosis, resisting the classical treatment, aspiration and puncture may be usefully employed.

In the treatment of articular effusions of blood it would be dangerous to puncture.

ART. 225.—*On Arthritis of the Knee and Articular Effusion consecutive to Fractures of the Femur.*

By **M. PAUL BERGER.**

(Paris, 1873.)

1. Every fracture of the diaphysis of the femur, of the trochanter, and of the neck external to the capsule, is accompanied, if it be complete, by effusion into the articulation at the knee.

2. This effusion appears earlier and in greater abundance the nearer the fracture to the knee, the more intense and the more extensive the traumatic lesion, and the younger the subject.

3. The effusion generally disappears earlier in adolescents than in adults or old people. In the first it leaves great laxity of the articulation; in the second and third it contributes to produce consecutive articular stiffness, by leaving

after it lesions analogous to those which are caused by subacute and chronic arthritis.

4. With this effusion in view, and the morbid changes by which it may be accompanied, it seems right to prefer apparatuses for semiflexion and continuous traction to immovable apparatuses.

5. This effusion results, independently perhaps of a certain amount of obstruction to the returning circulation in the synovial membrane, this obstruction being caused by rupture of the vessels of the periosteum, bone, and medulla; independently also of an arthritis, the existence of which is demonstrated by the results which it leaves. The effusion results from transudation through the cul-de-sac of the synovial membrane of a portion of the serum, which proceeds from half-coagulated blood which constitutes a gelatiniform sanguineous infiltration around the fracture.

ART. 226.—*Femoral Aneurism closely simulating Malignant Disease.*

By G. A. GLOAG, M.R.C.S.

(*British Medical Journal*, May 24.)

Mr. Gloag relates an instructive case of this, occurring in a man aged thirty-seven, of cachectic appearance, who came under Mr. G.'s care, November 5th, 1872, for a tumor which occupied the anterior and inner region of the upper half of the right thigh. "It was bounded above by Poupart's ligament, and had a circumference of twenty-seven and a quarter inches at its centre, the circumference of the sound limb at the same part being sixteen inches. The tumor had a tense, elastic feel and a shiny appearance, the superficial veins were enlarged and prominent, and the disease appeared to have involved all the structures of the limb. No bruit or pulsation could at any time be discovered in it. It gradually increased in size, and on December 20th had attained a circumference of thirty inches. The patient suffered intense pain, which was of a paroxysmal character, and required large doses of morphia or chloral for its relief. During severe pain I found that the tumor became harder, and that it increased in circumference to the extent of half an inch, and again subsided as the pain diminished to its former dimension. The limb was cedematous below the tumor, the result of venous obstruction. Although there were no glandular enlargements nor symptoms of secondary deposit, the cachectic appearance of the patient, the intense pain he suffered, and the rapid growth of the tumor, together with the total absence of pulsation or stethoscopic sound, induced me to believe the case to be one of medullary cancer, for which operative interference was unjustifiable. About six months previously to the time when the patient came under my notice, a tumor about the size of a small egg appeared on the upper and inner side of the thigh, accompanied with such severe pain that the patient was unable to follow his occupation, and was obliged to remain in bed. It grew rapidly from week to week, and the pain increased in proportion."

The man died December 28th, and Mr. G. gives the following account of the post-mortem made the next day: "An incision was made from the anterior superior spine of the ilium to the symphysis pubis, and another from the centre of Poupart's ligament down the front of the thigh. The latter was afterwards prolonged across the inner aspect of the knee, so as to expose the upper part of the popliteal space. On making the longitudinal incision the parts gaped widely, and a thin layer of muscular tissue was exposed. On dividing this the length of the thigh, a mass of clot presenting various shades of color appeared. Some of it was partly laminated and of a firm consistence, and needed the assistance of the knife for its removal. Nearly fourteen pounds weight of clot was turned out of the cavity, which was bounded anteriorly and to its sides by the skin, a small amount of subcutaneous fat, and a thin layer of muscular tissue; above by Poupart's ligament; below by the quadriceps extensor tendon; and behind by the eroded femur, the abductors, and vastus externus muscles, in a partially disorganized state. The integument showed no symptoms of

thinning in any part. The anterior crural nerve was found deeply imbedded in the clot, and was the only recognizable structure in the tumor. An incision was made from the middle of Poupart's ligament to the umbilicus, and thence to the sternum. The kidneys were in a healthy condition; the liver was enlarged, and showed appearances of waxy degeneration. On cutting across the aorta, and dissecting the external iliac artery downwards, it was found that an aneurism existed on the right superficial femoral artery. The femoral artery was then dissected upwards from the popliteal, as well as possible, to the tumor, and the mass removed for preservation. It consisted of a quantity of laminated fibrine, situated in Scarpa's triangle, where it appears to have burst, and this, I believe, took place before the patient applied for medical relief, at which time the tumor was localized, and about the size of two fists. The epigastric and circumflex illi arteries were considerably enlarged. The upper part of the femoral artery leading into the tumor was pervious; that immediately below it and leading from it was impervious." . . . "This case clearly shows that cachexia, rapid growth, and severe pain must not be accepted as sufficient evidences of cancer. In reviewing the history of this case there are some points which should have suggested its non-malignant character—namely, the absence of lymphatic enlargements, or symptoms of secondary deposit, and of any tendency to ulceration of the skin over the tumor; the favorable family history, and the fact that the tumor was definitely bounded superiorly by Poupart's ligament."

ART. 227.—Compound Fractures of Left Femur and Tibia; Dislocation of Left Hand; Amputation of Injured Lower Extremity; Recovery.

Under the care of Mr. W. JOHNSON SMITH, at the Seamen's Hospital, Greenwich.

(*The Lancet*, November 1.)

John J——, aged thirty-two, a waterman and river-pilot, was admitted on May 1st, 1873, with injuries to the thigh, leg, and the wrist on the left side. Shortly before admission the man was rowing off Blackwall, when his boat was accidentally run down by a large steamer, and whilst swimming he was struck by one of the paddles.

On admission he was found to have sustained the following injuries: Compound fracture of head of left tibia with much comminution, the lines of fracture extending into knee-joint. A small but deep wound over inner surface of tibia, from which there was a free hemorrhage, which could not be arrested by plugging or pressure. The integument for some distance around the edges of this wound was detached from subjacent fascia and muscles. Compound fracture of shaft of left femur at its middle third, the upper fragment protruding through a large wound in front of thigh; the muscles around the seat of fracture much torn and mixed up with effused blood. Simple dislocation of the hand forwards. The patient was quite sensible when first seen, and did not appear to be suffering from intense shock.

About a quarter of an hour after admission the patient was placed under the influence of chloroform, and the injured lower extremity removed by amputation immediately above the seat of the fracture of the femur. Two antero-posterior flaps of equal length were formed by transfixion. The raw surfaces of these flaps were well washed with a weak solution of carbolic acid, and a thick elastic tube carried from side to side through the stump. The edges of the wound having been fixed together by sutures, the stump was lightly bandaged to a well-padded wooden splint. The dislocation at the left wrist was reduced whilst the patient was under the influence of chloroform. Neither crepitus nor abnormal mobility of the lower extremities of the radius or ulna could be made out on careful examination.

The patient speedily recovered from the immediate effects of the amputation, and progressed favorably during the three following days. On the fifth day he

became delirious, and he remained so for four days. During the subsequent week he suffered much from intense febrile disturbance, which seemed to depend on the formation of a large superficial abscess over the right shoulder, and on phlegmonous swelling and deep-seated suppuration in the left forearm. On May 30th an extensive collection of pus was found under the integument of the left gluteal region. The abscess over the right shoulder was treated at first by aspiration, and subsequently by free incision. The collection of matter in the left gluteal region was at once treated by incision. In the treatment of the suppuration along the back and front of the forearm the bistoury was frequently used.

Notwithstanding the free discharge of pus from these regions, and profuse nocturnal perspiration, which lasted during the latter half of May and the first week of June, the general health of the patient during this period remained good, and no signs of serious or progressive exhaustion were presented. The stump from the first had presented a healthy appearance, and at the end of the first week of June was almost completely closed in, the only open wounds being small orifices, one at each extremity of the line of incision, corresponding to the points of exit of the drainage-tube, which had been allowed to remain in the stump for twenty days.

At the end of June the suppurative cavities over the right shoulder and the left buttock had completely closed. The swelling and suppuration in the left forearm still persisted, and there was then much thickening of the soft parts about the wrist. No bare bone could be felt along either of the bones of the forearm. There was abnormal mobility of the hand, great pain on passive movements, and distinct grating at the wrist—symptoms indicating destruction of articular cartilage and general disorganization of the joint. On July 4th the left hand and forearm were confined in an apparatus of plaster of Paris. On July 10th the patient was allowed to get out of bed. The stump was then quite healed, and firm manual pressure could be applied without giving pain. In the second week of August the patient was fitted with a wooden leg, and could then get about without assistance, with which he had not been previously able to dispense in consequence of the inability to use his left hand. On Aug. 20th the patient was discharged from the hospital. At this period there was firm ankylosis of the bones forming the wrist; all the small wounds and sinuses on the forearm had closed, and the integument was pale and healthy in appearance. The movements of the fingers were much impaired, and the extremity quite useless.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 228.—*On the Influence of Changes in the Position of the Uterus on Sterility.*

By Dr. HERMANN BEIGEL, of Vienna.

(*Wiener Medizinische Wochenschrift*, No. 12, 1873; *Schmidt's Jahrbücher*, No. 6, 1873.)

Dr. Marion Sims was, as the author of this contribution proclaims, the first to make clear the subject of female sterility, and to lay down fixed rules of treatment. He proved that conception must result whenever it is possible for healthy sperma to reach the uterine canal, and to come into contact there with a healthy ovulum, it being assumed that both husband and wife are in good general health. The frequency of sterility, according to copious statistical inquiries, especially by English obstetricians, may be concluded as one to ten, a prevalence that is so considerable as to render it necessary that we should inquire into the causes of this condition, and ponder over means for their removal.

The genital apparatus, from the entrance to the vagina as far as the abdominal orifices of the Fallopian tubes and the ovaries, may be divided into two sections, one of which is accessible to direct exploration with the speculum and sound, whilst the other is altogether removed from such examination. All the organs belonging to these two divisions may be so affected that, on the one hand, an insurmountable obstacle may be presented to the penetration of the sperma into the tubes and the cavity of the uterus, and, on the other hand, that it may be impossible for the ovulum to advance far enough to come into contact with the fructifying fluid.

One of the most frequent causes of sterility is to be found in altered position of the uterus. Dr. Sims found in 250 married women who had never given birth, 103 anteversions, and 68 retroversions, and in 255 women who had given birth, but had never attained the full term of pregnancy, 61 anteversions and 111 retroversions. From these statistics we learn that, in the first class of cases where sterility is to be regarded as congenital, the anteversions predominate, as the retroversions do in the second class of dealing with cases of acquired sterility. Dr. Graily Hewitt, from 1865 to 1869, treated 296 women for flexions and versions of the uterus; of these, 235 had given birth, 24 had aborted, and 57 had remained quite sterile.

In 11 only out of 125 sterile females did Dr. Beigel fail to find any affection which would serve to account for the condition of sterility; in the other 114 cases the cause could be made out without difficulty. In 34 cases there was an alteration in the position of the uterus, in 26 of these version, in 12 flexion, and in 2 sinking. It has been stated in various quarters, that women in whom undoubted change in the position of the uterus has been known to exist, have become pregnant; this is certainly a fact, and it speaks the more for the mechanical nature of the process of conception. Deviation of the uterus from its normal position, in and by itself, does not constitute any cause of hindrance to conception; such a change of position may render conception difficult by preventing the ingress of the sperma, yet it is not necessarily an insurmountable

ble obstacle. This cannot be said of that not unfrequent condition in which the anterior lip of the os uteri is longer than the posterior lip, and is applied so closely to the posterior wall of the vagina that both these parts form a more or less complete obstruction, and present an insurmountable barrier against the penetration of any foreign body. The causal element in sterility is not so much the degree of inversion as the *relation of the lips of the os uteri to the anterior or posterior wall of the vagina* according as one has to deal with retro- or ante-version.

The existence of a flexion also is no constant cause of sterility, for this abnormal condition does not necessarily result in occlusion of the lumen of the uterine canal. In some cases, notwithstanding the existence of flexion, both the cervical canal and the uterine cavity are quite pervious; in other cases the inner surfaces of the uterine walls are brought so closely into contact as to form a complete obstruction. Where it is almost or quite impossible to separate the uterine walls by means of a sound, the penetration of the seminal fluid is prevented, and absolute sterility will persist so long as this obstruction is not overcome.

It cannot be doubted that the restoration of the uterus to its normal position is the only rational method of removing the sterility. For some years past Dr. Beigel has, with the most satisfactory results, kept to a strictly mechanical treatment, and has used in preference to other means intra-uterine pessaries. The instrument which Dr. Beigel uses is an elastic ball carried on a stem of hard India-rubber; this stem is traversed for one-half its length by a canal, and can be readily slipped over a conductor fixed to the elastic ball, and by means of this can be introduced into the cervical canal. The ball is then distended with air through an appended elastic tube, the end of which is then closed by a clip fixed to a girdle around the patient, so that the escape of air is prevented.

ART. 229.—*The Value of the Corpus Luteum as a Proof of Impregnation.*

By WILLIAM T. BENHAM, M.D.

(*Edinburgh Medical Journal*, August.)

Dr. Benham records the following highly interesting case:—

The subject was a female, aged twenty-nine, who it was impossible could have had sexual connection with any one for at least several years before her death, was admitted into the Bristol Lunatic Asylum in December, 1864, suffering from epilepsy. She died on the 26th March, 1873. On examination, the organs of generation externally “presented, in a marked degree, all the highly characteristic signs of virginity. On removing the uterus, ovaries, and Fallopian tubes, they were found to be in a state of intense congestion, the superficial veins standing prominently out, and being filled with dark-colored blood. The left ovary was more congested than the right, and on its upper anterior surface, situated rather more internally than externally, was seen a bean-like prominence, surrounded by a plexus of bloodvessels all the more apparent from their congested condition; it was of a polished appearance, and of rather a bluish shade of color. On examining this body it was noticed that its upper surface presented a small nipple-like projection, apparently formed by the distension of a small portion of the peritoneal covering of the ovary, and containing some soft distending material; some small bloodvessels could be observed ramifying round the base of it. At the centre of this prominence was a small irregular dark spot, as if a small orifice had existed there, and had been closed up by a clot of blood. On making an incision through its long diameter, there was at once seen an oval-shaped cavity filled by a mass of partially decolorized fibrin, and entirely surrounded—except at the point corresponding to the nipple-like process—with a thick yellow substance of considerable firmness, pierced by a number of small bloodvessels which sprang from the vascular plexus surrounding it externally; and, on using a magnify-

ing glass of low power, those minute vessels could be seen traversing its substance, and losing themselves on its inner edge, which was contiguous to the surface of the partially decolorized fibrinous clot filling up the cavity. On measuring this cavity it was found to be five-eighths of an inch in its long, and three-eighths of an inch in its short diameter. The yellow substance surrounding it was found to be of the uniform thickness of one-eighth of an inch, the whole structure measuring seven-eighths of an inch in its long, and five-eighths of an inch in its short diameter. On again examining this yellow substance, it was seen to be of a firm granular-like matter, with many minute oil globules scattered over its surface; and in parts where the bloodvessels were the most numerous, they gave it a pinkish-yellow appearance. It will be at once seen that we have here occurring in the virgin ovary a corpus luteum, possessing such decided characteristics as to make it *per se* quite indistinguishable from the so-called *true* corpus luteum of impregnation of the same period, asserted by many writers—Paterson, Lee, Montgomery, Bernard, Deschamps, Müller, Ramsbotham, and others—never to occur but in the ovary of an impregnated female, and constantly regarded by them as infallible proof of a recent pregnancy.

“ Hoping almost against hope that the ovule, which had evidently been only very recently extruded, might still be found in the cavity of the uterus, a section was made through its anterior wall, and on laying it open there was seen a small circular body, of a reddish-white color, almost buried in the pulpy purplish colored decidual débris, which thickly covered the whole of the interior surface of the uterus. On carefully removing what I could of this decidual matter from its surface, and examining it with an inch lens, it appeared to be more of a pinky-white color, and having a fine velvety surface, which, under a higher magnifying power, was seen to consist of multitudes of white filaments. It measured, with the decidual matter surrounding it, and which could not be entirely separated from it, one-twentieth of an inch in diameter, and was situated a little more than seven-twelfths of an inch above the os internum, and slightly to the right side of the median raphe of the uterus. As I have already said, under a higher power, its surface was seen to be composed of very short white filaments, which give it much the appearance, only on a smaller scale, of one of the earliest impregnated ova on record, discovered and described by Velpeau as measuring about five-twelfths of an inch in diameter, and the filaments of which were so far developed as to measure one-twelfth of an inch in length. This ovum he stated to be fourteen days old.

“ On making a section through this ovule, with the object of examining it more minutely, I noticed that a very small quantity of albuminous fluid escaped from it, and it lost its globular form directly. A partially collapsed cavity of very minute size was seen to occupy its centre, and although I carefully examined the incised ovule and the fluid which had escaped from it, I could discern nothing more of importance.”

This case proves “ that an unimpregnated ovule can and has descended into the cavity of the uterus, and remained there for some days without being, as stated by some, immediately washed away with the menstrual fluid, or without, as stated by others, having undergone such rapid dissolution as to have immediately passed away; and, what has been denied by many, that an ovule is ever impregnated in the cavity of the uterus itself, is now made extremely probable. There can, I think, be no doubt that, had this girl had sexual connection, this ovule might certainly have become a fecundated ovum; unless, indeed, what has never yet been demonstrated is the case, that the menstrual fluid, through which the spermatozoa would have to pass to reach the ovule, possesses the power of destroying those bodies immediately on coming into contact with them. Before passing from this subject, let me state that I think this individual case goes a long way to make it probable that where an ovule is extruded it takes place at the commencement of menstruation more frequently than at any other time. This ovule had evidently been extruded for some time—that is, not less than two days; and that it had not been extruded immediately before death is evident from the fact of its having been found in the cavity of the uterus, embedded in the decidual débris. It must,

therefore, have taken some time to have been conveyed there, considering the distance it had to travel; and, besides, the condition of the fibrinous clot filling the cavity it left makes it certain that it had been extruded at least two days previously. It appears, then, that in this case the ovum was extruded at the commencement of menstruation, and that it is usually so in other cases seems, I think, to be indicated by this, that at the time of, and for a day or two previously to, menstruation, a much greater supply of blood flows to the ovaries than at any other period; and the fact of the distended Graafian vesicle sharing in the increased vascularity of the whole structure at that particular time, makes it extremely probable that the extra pressure then put upon the captive ovule should be sufficient to cause it to burst its coverings and to become extruded, and should it not be sufficiently developed to do so at that period, in all probability it would not become extruded until the ovary should be again the subject of increased vascularity; and this seems to show the reason why a menstrual period often passes without the extrusion of an ovule at that particular time. It would appear, then, that the increased vascularity which takes place at the menstrual period goes a long way to explain the mechanism by which an ovule is extruded more frequently at that than at any other time; also there can be no doubt that the increased vascularity is of great importance in producing those changes in the Fallopian tubes and their fimbriated extremities, which result in those parts of the sexual apparatus taking on the turgid and erectile character necessary for the due performance of the function of grasping the extruded ovule and of conveying it to the cavity of the uterus. But where, in cases by no means uncommon, an ovule is extruded, and becomes impregnated at an *inter-menstrual* period, I am bound to believe, from instances which have come under my own observation, that it is owing to the fact that, from some exciting cause more or less potent, the ovaries have taken on an increased vascularity of action resembling that incident to menstruation, and sufficient to extrude a well-developed ovum at an abnormal time."

Bischoff, Casper, and Kirkes believed that the so-called true corpora lutea may be produced independently of impregnation, and that they consequently cannot be received as proofs of pregnancy. That they are right in this conclusion this case materially helps to prove. The fact of a corpus luteum of menstruation having been found to so exactly imitate those of impregnation—if, indeed, this was only a *solitary* instance—must considerably weaken the theory still held by many, that a so-called true corpus luteum is a sure sign of impregnation. When we come to consider why impregnation should make such a vast difference in the appearance and structure of the corpus luteum resulting therefrom—as is said to be the case—it is by no means easy to see the reason why such should be so.

Dr. Benham believes "that the presence of a so-called true corpus luteum, of at all recent formation, in the ovary of a female, has not the slightest legal value whatever in determining the question as to whether impregnation has taken place or not. If that is proved, as I believe it is, by the facts I have brought forward, it should be of considerable importance in its medico-legal as well as in its anatomical and physiological bearings, for in one case at least recorded by Dr. Guy, the existence of a corpus luteum was held to *prove* that conception had taken place, when the uterus itself presented not the slightest signs of such having been the case."

ART. 230.—*Excessive Vomiting of Pregnancy.*

By ALFRED H. MCCLINTOCK, M.D.

(*Irish Hospital Gazette*, May 1.)

Dr. McClintock read a communication on this subject before the Obstetrical Society of Dublin, March 12th, 1873. He included under the above designation all cases where this symptom of the gravid state is so severe and persistent as to threaten the life of the patient. He advocated a resort to the induction

of abortion in all these cases, if medical treatment had been found unavailing, and the life of the patient was endangered. A highly illustrative case was related, where the author recently had recourse to induction, apparently under hopeless circumstances, and saved the patient from inevitable destruction. He took a brief clinical retrospect of the subject, and a table was given of thirty-six cases where abortion had been artificially provoked to rescue the patients from the fatal effects of their excessive vomiting. In twenty-seven of these cases the vomiting was arrested, and the patients perfectly recovered; whilst in *nine* instances, although the vomiting was stopped, still ultimate recovery did not take place, partly in consequence of the operation having been too long delayed, and partly from the effect of some intercurrent complication (e. g., diarrhoea, hemorrhage, puerperal fever, biliary calculus, etc.) not fairly attributable to the operation itself. The author cited fifty cases (from various authentic sources) where death had actually taken place in consequence of the persistence and uncontrollable severity of the sickness. With reference to the etiology of this vomiting, he briefly alluded to each of the theories that had been put forward by different authors to account for its production, and showed their inapplicability to the great majority of cases; and he completely refuted the notion so strongly advocated by Dr. Grailly Hewitt, that some displacement of the gravid uterus was the cause of vomiting in every instance. He was at pains to distinguish between the vomiting that occurred *in* pregnancy (from some concurrent disease) and the true vomiting of pregnancy. Whilst enforcing extreme caution in the former class of cases before any recourse be had to artificial abortion, he still thought that this alternative measure might be justifiable in some cases of this description, and referred to instances in his table in support of the opinion. He concluded his essay with a detailed clinical history of a case in which he had recently induced abortion. It was the lady's first pregnancy, and the sickness began about five or six weeks after impregnation. She was reduced to the very last degree of prostration and weakness when abortion was provoked, insomuch that the preservation of her life seemed scarcely possible; nevertheless, she made a good recovery and has again become pregnant.

Dr. Lombe Atthill considered the vomiting of pregnancy to be generally a useful, not an abnormal, symptom; and thought that, in some cases at least, it was due to distension of the os internum, instancing the occasional production of nausea on the passage of a uterine sound, and by the passage through the os internum of clots in dysmenorrhoea as examples of vomiting occasioned by such a cause. In cases of excessive vomiting, abortion, he believed, ought to be adopted when the patient is sinking.

Dr. Churchill, also, did not believe in the flexion theory as the cause of the vomiting in pregnancy. A retroverted pregnant uterus was not of common occurrence. He thought that various conditions (granular inflammation, etc.) of the cervix uteri, cervical canal, or os internum might be a cause of the sickness; and he remarked that he had seen typical cases of morning sickness in women who were not pregnant. He, Dr. Churchill, had seen seven cases of extreme vomiting, five of which were fatal. The early suffering in these cases was generally that of exhaustion, but sometimes there was inexplicable agony. The great difficulty in these dangerous cases is to arrive satisfactorily at a determination of the time at which the operation should be performed. The best guide was the condition of the pulse. In all the bad cases he had seen the pulse became very high; and when the pulse rises the question of operation should be at once taken into consideration, and not postponed too long, because if the patient be allowed to run down she will not rally.

Dr. J. A. Byrne had only seen one fatal case from excessive vomiting in pregnancy. The patient was a delicate woman, four and a half months pregnant. He did not think the symptom depended upon alterations in position of the uterus, as he had seen instances of pregnancy in cases of retroflexion of the uterus without any vomiting; and in these cases of excessive vomiting during pregnancy the uterus was generally found in its normal position. He, Dr. Byrne, thought that the symptom in question was due to the stretching of the fibres of the uterus, and that the Chairman's explanation would not apply.

Change of air was of benefit in the treatment of these cases, as was also the oxalate of cerium and the hypodermic injection of morphia; but we should be extremely circumspect about recommending the operation of the induction of abortion—1st. Because it was a line of practice which might be adopted too generally; and 2d. Because of the speedy manner in which these cases sometimes suddenly recovered.

ART. 231.—On Extra-Uterine Pregnancy.

By PROFESSOR BÉHIER, of Paris.

(*Gazette Hebdomadaire*, No. 36, 1873.)

The following is a part of a clinical lecture delivered at the Hôtel Dieu, Paris:—

"The different varieties of extra-uterine pregnancy may be thus classed in their order of frequency: 1. Tubal pregnancy; 2. Abdominal pregnancy; 3. Ovarian pregnancy; 4. Interstitial pregnancy.

"1. *Tubal pregnancy* is the least uncertain variety, and the one that can be most easily interpreted. Here the fœtus has clearly been developed with its placenta in the Fallopian tube; the mucous membrane becomes hypertrophied and very vascular; the veins and capillaries form veritable sinuses, into which sink the villousities of the chorion. The muscular layer of the Fallopian tube becomes thickened, but only to a slight extent; the serous membrane also becomes thickened, as a consequence of attacks of peritonitis after incomplete rupture. The existence of a veritable placenta is seldom to be made out, this structure being represented by the villous tufts which sometimes constitute multiple dilatations.

"This tubal cyst rarely reaches its ninth month without rupture, which takes place generally in the second or third month, sometimes in the fourth. Some few cases have been reported in which the rupture occurred at the seventh month. Finally, Otto Spiegelberg observed one case in which the woman died at the ninth month in an attack of eclampsia. There was found after death rupture of a tubal fœtal cyst, and considerable abdominal hemorrhage. This seems to have been the only case in which rupture did not occur until the ninth month. It should be stated, however, that the autopsy made by Waldeyer showed that the cyst occupied the commencement of the right Fallopian tube, and the condition, therefore, approached that of the intestinal form."

"2. *Ovarian Pregnancy*.—The existence of this variety has been disputed, notwithstanding recently-reported cases from Hess of Zurich, and from Rambotham and Adams. For my own part, I have collected several undoubted examples from many other sources. These ovarian pregnancies usually terminate in rupture of the cyst before the completion of the term of gestation, still they have been known to reach the ninth month without meeting with any accident.

"3. *Primary Abdominal Pregnancy*.—In a case of this kind the ovum is implanted on the peritoneum, which inflames, and forms a protecting envelope and veritable cyst. There are cases, however, like that of Lecluyse (Gutot, Société Anatomique, 1858), in which the cyst was quite wanting; the enveloping membranes of the embryo are then restricted to the amnion and chorion. Schreyer has observed an analogous case. In this variety the placenta is circular or is spread out; it is fixed indifferently on the intestines or on the abdominal wall, and in any region of the peritoneal cavity. The fœtus is then generally placed as in normal pregnancy—the head is inserted into the lower pelvis, and the back is applied to the abdominal wall.

"4. *Interstitial Pregnancy*.—This is relatively the rarest of all the forms of extra-uterine pregnancy. In cases of this kind the fœtus is lodged in that portion of the Fallopian tube which is contained in the thickness of the uterine wall. Carus, Breschet, and Dugés have reported examples of this form.

"The classification which we have just reviewed is founded on typical cases, which, indeed, are but rarely met with in a state of purity; the intermediate forms are numerous, and my case was one of this kind. The fimbriated ex-

tremity of the left Fallopian tube was confounded with the cyst, and the left tube of the uterus at the commencement of the cyst was four centimetres in width, whilst the right tube was six centimetres. The cyst itself was nine centimetres in its transverse diameter, two of which were covered by the extremity of the tube and the fimbriated extremity. In its vertical diameter it measured seven and a half centimetres.

"These dislocated pregnancies, if one may so call them, follow each the same course and have the same termination. The tubal and ovarian pregnancies usually terminate in rupture of the cyst at the third or fourth month, and, in most instances, both the mother and foetus die. It is not rare, on the other hand, to see an abdominal pregnancy (and also the tubo-abdominal variety) reach its full term. At this period there is a veritable labor, characterized by uterine contractions, and by the expulsion of sanguinolent mucosities by the vagina. This labor often ends in rupture of the cyst, and death of the mother through peritonitis. In other cases the false labor fails, and gestation is prolonged, the foetus subsequently dying and finally undergoing modifications which vary in different instances. Sometimes it becomes mummified or cretified, at other times it remains in the abdomen of the mother to undergo other changes, as those of induration or cretaceous conversion. The foetus, when it has undergone the latter changes, has generally remained for a long time in the abdomen. Cases have been recorded in which the foetal body had remained twenty-eight, thirty-three, and fifty years. According to M. Deneux all the extra-uterine pregnancies in which the product of conception has been retained beyond the normal period, ought to be classed as tubal, the extra-uterine pregnancies of the variety called abdominal being, according to this author, always fatal. This opinion, however, I do not think can be accepted. In extra-uterine pregnancies of the tubal variety death of the mother and child is the ordinary consequence of rupture of the foetal cyst at the third or fourth month, whilst the cases of prolonged sojourn which I have just alluded to were of the abdominal variety of extra-uterine pregnancy.

"Instead of thus resting indefinitely, so to speak, inclosed within the body of the mother, the extra-uterine foetus may, after a shorter or longer interval, give rise to special symptoms. For instance, after having been tolerated during a long period by the peritoneum, it may suddenly determine violent inflammation of this membrane with all its consequences. At other times, the foetus, after having undergone much change, may be totally or partially evacuated by the same mechanism as is observed in the evacuation of foreign bodies, and of purulent collections. This expulsion may take place at almost any point of the abdomen; the most frequent spot for the discharge of the foetal remains is the umbilicus. The rectum is the next most frequent seat after the umbilicus, and then comes the iliac fossa. In the last instance a true abscess presents itself on the abdominal wall of one iliac region, the skin sloughs, and an orifice is subsequently formed which gives exit to fragments of foetus. The elimination takes place slowly, and may be continued for years, being carried on either uninterruptedly or intermittently with development of acute symptoms before each fresh evacuation. In some cases no severe symptom accompanies the issue of the fragments of foetus. It should be mentioned that in cases where the expulsion of the foetal fragments takes place at the umbilicus, or at other points of the abdominal wall, it is often necessary for art to intervene in making necessary incisions for giving issue to fragments larger than the diameter of the spontaneous opening. These incisions ought not to be made in the rectum save with the utmost caution.

"The regions of the abdominal wall which I have just indicated, and the rectum, are not the only seats at which the foetal remains may be discharged. These remains may be discharged through the bladder, or concurrently through this and some other organ. Petersen (*Dublin Med. Press*, 1859) reported a case in which the foetal fragments passed both by the rectum and the bladder, the woman succumbing at last to this double discharge. The *débris* are sometimes discharged through the vagina. In a case reported by Skriveran (*Archives de Médecine*, 1852) the extra-uterine pregnancy took place in a hernial sac. A

living fœtus was removed by operation, but this died soon afterwards; the mother recovered.

"It is well to know that ulterior conceptions are frequent in women who carry in the abdomen these products of extra-uterine gestation. The subjects, however, of this latter condition generally succumb sooner or later in consequence of attacks of peritonitis, or of purulent infection. Without intercurrent pregnancies, peritonitis, exhaustion through prolonged suppuration, and purulent infection are the three affections which usually cause the death of women who bear these degenerated products of extra-uterine conception.

"Many observers of these cases of extra-uterine pregnancy have insisted on the presence of modifications of the uterus itself, which resemble those which the organ undergoes in normal pregnancy. It has been stated that the organ increases in size, and that it presents on its inner surface a membrane similar in appearance to the amnion. These changes no doubt occur in a certain number of cases, but they certainly are not the general rule. In my case there was no abnormal development of the uterus; the mucous membrane was unchanged, and covered by a thin layer of long and very slightly sanguinolent mucus.

"The diagnosis of extra-uterine pregnancy is difficult in the early stages. In some instances there is nothing to suggest an anomaly. The pregnancy seems to evolve regularly; and the practitioner after a time, but too late, is informed of the state of things through the results of rupture of the cyst. Intensity and tenacity of the sympathetic phenomena have been indicated as frequent signs of the early stages of extra-uterine pregnancy. Heine has even described a variety of uterine colic peculiar, in his opinion, to extra-uterine pregnancy. As the uterus at the commencement of this abnormal pregnancy may undergo most of the modifications that are presented in normal pregnancy, there is a fresh cause for difficulty in the diagnosis. When, on the other hand, the general phenomena can be attributed to the existence of a pregnancy which is not accompanied by regular development of the uterus, and especially when this organ remains of small size in relation to the epoch of the occurrence of the first *malaises*, one will have reason for suspecting extra-uterine development of the fœtus.

"Palpation may sometimes aid us in forming a diagnosis. Thus it is stated that the neck of the uterus is deviated from the side of the cyst when the pregnancy is tubal, and that it is turned backwards when the pregnancy is retro-uterine—a very rare form. Again, in extra-uterine pregnancy, the abdominal swelling is not developed exactly in the median line. Sometimes when there have been general disturbances, one may by touch and palpation combined make out distinctly the existence of a tumor independent of the womb. Emptiness of the womb made out by catheterism and the simultaneous observation of certain signs of pregnancy (movements of the fœtus, etc.), alone serves to remove all doubt.

"*Treatment.*—The indications vary singularly according to the period at which pregnancy has arrived.

"If one is able to diagnose extra-uterine pregnancy at an early stage, as experience proves, that, whatever be the variety of abnormal pregnancy, the fœtus will probably perish at last and cause the death of the mother, the necessity of preventing the development of the fœtus, and even of causing its death, is imperiously indicated. All accoucheurs agree on this point; they would without hesitation sacrifice a fœtus, the useless life of which must cause the death of the mother, but differences of opinion occur as to the determining of the best means for arriving at this result without putting the life of the mother in danger.

"Von Ritgen has proposed to destroy the fœtus by submitting the mother to *curea famis*, a means however which is seldom efficacious, as is proved by the results of the same when applied in cases of contracted pelvis. In the latter case the health of the mother generally deteriorates; she falls into a state of cachectic emaciation, whilst the fœtus continues to thrive, as it does also in women who eat little or vomit frequently during pregnancy. This then is a mode of treatment which is as dangerous as it is inefficacious.

"Oriander proposes the early extirpation of the cyst by the bistoury. Many prefer puncture of the cyst, either as a means of exploration or as a proceeding for causing the death of the fœtus. Martin punctures by the abdomen, Simpson and Braxton Hicks by the vagina. The patients thus treated died of peritonitis. This then is a dangerous proceeding, and ought to be rejected.

"M. Joulin has proposed *capillary* puncture and injection of some poisonous substance, sufficient to kill the fœtus without injuring the mother. This plan has been carried out with success by Friedreich, of Heidelberg, and by Kœberlé. Bachetti, an Italian physician, has employed the electric current with success. Braxton Hicks by using the same means (electro-puncture and the galvanic current) caused the death of the fœtus, but likewise that of the mother from peritonitis.

"Finally, compression has been proposed in order to cause abortion. This proceeding consists in applying sand-bags over the abdomen of the mother, and gradually increasing their weight. The chief objection to this method is its liability to cause rupture of the cyst.

"The best method then of causing the death of the fœtus in the early period of extra-uterine pregnancy consists in capillary puncture and the injection of some narcotic (one centigramme of hydrochlorate of morphia).

"Other indications will arise if the practitioner be called in at the time of rupture of the cyst; he will then have to deal with internal hemorrhage and the imminence of acute generalized peritonitis. In cases of this kind some, and among these M. Kœberlé, unhesitatingly recommend gastrotomy. This operation should be performed with all the minute precautions that are taken in ovariectomy; the peritoneum must be cleared of the effused blood, and the embryo and its membranes removed.

"An intervention of such gravity as this will be justified by the equal gravity of the situation which one endeavors to relieve; in fact, in cases of rupture of the cyst and of intra-peritoneal hemorrhage, the issue is almost certain to be fatal.

"Rupture of the cyst takes place most frequently near or during the fourth month. If the pregnancy has passed over this dangerous period, it will then follow an almost normal course, and generally arrive at its term. After the fourth month then there is no longer any indication for attempting the death of the fœtus, as this is now so large that there could be no hope of its safe absorption after death. It is necessary then to give it full liberty to develop itself and to wait for its complete maturity; so to speak, before interfering with attempts to save both mother and infant.

"When this period has arrived gastrotomy should be performed without hesitation, and the living infant extracted. This is the precept laid down by modern ovariectomists. This subject is discussed by M. Keller, an *élève* of M. Kœberlé, in a recent thesis on extra-uterine pregnancies and their treatment by gastrotomy.

"M. Keller reports nine cases in which gastrotomy had been performed. In these nine cases seven infants were saved and four mothers. Eight cases of extra-uterine pregnancy are next recorded in which gastrotomy was not performed. Of course all the infants succumbed; of the eight mothers only one recovered—the others perished four, ten, and fifteen days after the false labor.

"When the term has passed and the fœtus is dead, there is but one object to be attained, the preservation of the mother. The fœtus may, as I have stated, become encysted and converted into adipocera or lithopedion, and remain for an indefinite period in the abdomen of the mother; but in most cases repeated attacks of inflammation occur, and abscesses and fistulæ are formed, from which during months and even years fœtal débris are discharged. This long process of elimination and suppuration often exhausts the woman and determines a condition of cachexia; in other cases death is caused by an attack of acute peritonitis.

"In these latter cases gastrotomy is also indicated, and here the operation has been performed with very good results; nineteen out of twenty-one operations having been performed with successful results.

"Here statistics are much more favorable than for the performance of

gastrotomy in the early stages of extra-uterine pregnancy, but one should not, I think, lay down any absolute doctrine, nor have recourse systematically to the operation after the false labor has terminated. Cases in which the sojourn of the fœtus in the abdominal cavity is prolonged without inconvenience to the mother are not rare, and examples of complete recovery after spontaneous expulsion of the fœtal débris are not exceptional. For my own part, I would never readily consent to the performance of gastrotomy on account only of the presence of a fœtus in the abdominal cavity of the mother, or of the commencing elimination of parts of the fœtus.

"It should be remembered that gastrotomy is a very serious operation, and may be followed almost immediately by death. Before recommending it, I would rather wait until the course of the symptoms indicate its urgent necessity, and I would not venture to propose it, notwithstanding the presence of the products of abnormal gestation, for a healthy-looking woman who has probably before her ten, fifteen, thirty, or even fifty years of tolerable existence. It may be stated in opposition to this opinion, that the chances of success would be smaller after the manifestation of bad symptoms. This I know, but I still continue to feel that the responsibility of such an operation is heavy in the case of a healthy-looking woman whose future may probably be exempt from all danger.

"I do not feel myself freed from anxiety by the remark, no doubt very true, that the adhesions that are often formed between the cyst and the abdominal wall may permit the surgeon to reach the fœtus without encroaching on the peritoneal cavity. Rousseau and Beauvoisin have proposed to carry out, in opening the cyst, the proceeding carried into practice by Recamier in evacuating hydatid cysts of the liver, and to apply caustics to the abdominal wall before performing gastrotomy. This proceeding is a prudent one, and seems to have succeeded in the hands of its proposers, but still it should not induce you to forget the scruples that I have just expressed."

ART. 232.—*On some Microscopic Lesions produced in the Fœtus by the Forceps.*

By Dr. JACQUET.

(*Lyon Medical*, No. 9, 1873; *Gazette Hebdomadaire*, No. 21, 1873.)

The author describes some lesions which were observed in the spinal cord of a fœtus brought into the world by the application of forceps, which lasted for twenty-five minutes, with a force of traction estimated at forty-five kilogrammes. These lesions are analogous, if not identical, with those described in cases of traumatism of the nerve centres. The observation of these injuries, due to the application of the forceps, constitutes a new fact, for in the most recent works on the application of histology to obstetrics, no mention has been made of this subject. The microscopical lesions found in several organs of the fœtus by the author result, apparently, from exaggeration of the blood tension produced in the head by the forceps.

These consist, 1stly, in small diffused but rare effusions of blood, revealed by the microscope in the thickness of the choroid; 2dly, in numerous spots of ecchymosis on the inner surface of the spinal arachnoid; 3dly, in extravasations of blood, varying in size, but never very large in the thickness of the cord itself. In sections made perpendicularly to the axis of this organ, these hemorrhages present a rounded form and a speckled aspect. These microscopic hæmatomata, which the author designates by the name of pseudo-miliariæ on account of their resemblance to true miliary aneurisms, occupy almost exclusively the white substance of the cord, and have as their seat of election the end of the dorsal region and the commencement of the lumbar region. According to the author this latter fact should be regarded as a consequence of the antagonism which the cephalo-rachidian fluid establishes between the cerebral and the spinal circulations. The rounded form of these hæmatomata is probably due to the presence of lymphatic sheaths surrounding the large capillaries of the cerebro-spinal axis.

ART. 233.—*On the Determining of the Condition of the Fœtus in Utero.*

By Dr. COHNSTEIN, of Berlin.

(Archiv für Gynakologie, iv. 3, 1872; Schmidt's Jahrbücher, No. 5, 1873.)

The determining whether the fœtus in utero be living or dead is often, during pregnancy, but much more frequently during parturition, a matter of the greatest importance.

The diagnosis of the living condition of the fœtus is based upon the signs of life—heart sounds and movements of the fœtus. When these can be made out no doubt remains as to the condition of the fœtus, but it may yet be living though these signs cannot be made out. Dr. Cohnstein endeavors to prove that the diagnosis as to the living condition of the fœtus may be made by means of the thermometer. It is well known that the temperature of the fœtus in utero is higher than that of the mother, and the temperature of the gravid uterus higher than that of the vagina. Since this higher temperature of the uterus is due to the heat produced by the fœtus, this must diminish when the fœtus dies, in consequence of the failure in the supply of heat previously afforded by the fœtus, and the abstraction of heat from the uterus by the dead mass. A proof of the correctness of this view is afforded by a case reported by Schröder, in which the uterine temperature of a parturient woman, whose child had died seventeen hours previously, was not more than one fiftieth of a degree higher than that of the axilla; when the fœtus is living the difference during birth is about one-third of a degree, and during pregnancy about one-fourth, and never less than one-tenth of a degree.

By comparing the temperature of the uterus with that of the vagina or axilla, a conclusion may therefore be drawn as to the condition of the fœtus. But with this investigation by means of the thermometer the death of the fœtus can be determined only in those instances in which the temperature of the uterus equals or is lower than that of the vagina. If the temperature of the uterus be found higher than that of the vagina, the diagnosis cannot at once be determined, since the fall of temperature in the fœtus after its death may come on gradually in consequence of the slight difference between its temperature and that of the surrounding medium; and since, moreover, there may be a post-mortem rise of temperature. Only when two or three hours after the determining of a high uterine temperature, a fall of the same has been observed, can one conclude as to the subsequent death of the fœtus.

If, however, the temperature of the uterus be above that of other internal organs, in consequence of the heat given off by the living fœtus, the observation of such an excess by means of the thermometer will be very important, in the absence of other signs, in making out a pregnancy, especially during the first three months of this condition. That the careful introduction of a thermometer into the cavity of the pregnant womb, between the wall of the same and the membranes of the ovum, is a harmless proceeding has been proved by experience.

If temperature observations can be carried out during parturition, the thermometer may be introduced far enough if the head be turned forwards. If the os uteri be stretched and the head forced down in the pelvic cavity, the temperature may be taken in the vagina. Observations can be made still more readily in oblique, breech, and face presentations.

ART. 234.—*On Vesicular Moles.*

By D. AUGUST FRICKER, of Heilbronn.

(Memorabilien, xviii., 1873; Schmidt's Jahrbücher, No. 7, 1873.)

According to Fricker, molar pregnancies, although they do not occur very often, are more frequently met with than is generally supposed. The vesicular is the most common of all moles, and perfect forms of this degeneration are

rarely met with, yet, on examination of abortive ova, vesicular degeneration of the chorionic tufts will very often be found, and in the membranes of fetuses born at the full time a few stalked vesicles may occasionally be seen. According to G. Brauer moles have a great influence both on the mother and child; on the former as they give rise to hemorrhages during pregnancy, and induce miscarriages; on the latter, as this, through mechanical and dynamical impairment, fails to attain but a rudimentary, if any, development. Fricker has had opportunities of observing four cases of vesicular moles, two of which were of especial interest, and in one of which death resulted from internal hemorrhage. Two of these cases and another observed by Gfrörer, which also ended fatally, are reported at full length, and to these cases are appended abstracts of forty-seven others collected by various obstetrical works.

The ages of the women were given in 44 of these cases: 2 were under 20 years, 18 were between 20 and 30 years, 15 between 30 and 40 years, and 9 above 45 years. Ten of these subjects were primiparae. The molar pregnancy had been preceded in three instances by abortion, in four instances by instrumental delivery, once by detachment of the placenta, and once by intense anæmia. The coexistence of some morbid condition with the molar pregnancy is frequently reported, especially general constitutional disturbance, vomiting, a tendency to fainting, great debility, abdominal and lumbar pains, hysterical attacks, leucorrhœa, discharges of serous and purulent fluids, excessive anæmia, œdema of the feet; loss of blood at different periods of the pregnancy is specially noted in 41 cases. Concussion of the body through falls and blows and physical changes are found noted as causes of the hemorrhages. In nine cases nothing is stated as to the size of the uterus during the period of pregnancy; in eight cases it was too large, and once it was too small. On internal examination, there was found in 14 cases at the os uteri a body similar to the placenta, usually felt for the first time after the commencement of the pains; in 7 cases the diagnosis was made sure by the discharge of a portion of mole; in 5 cases the placenta presented; in 4 women there had been repeated molar pregnancies. The weight of the mole in the majority of cases varied between $1\frac{1}{2}$ and 6 pounds; in one case was observed an hydatid mole which weighed 11 pounds. In 23 cases the uterine contractions alone sufficed for the discharge of the mole (in 4 of these ergot had been administered); in 3 cases plugging alone sufficed; in one case the membranes were ruptured; in 2 cases a catheter was introduced, and in one compressed sponge was used; manual assistance was rendered to 18 women, making 25 cases in which operative proceedings were carried out. Transfusion was performed on two women, but only on one with a good result. In eight cases the women suffered after the removal of the mole from one of the following affections: metro-peritonitis, phlebitis, metritis, ovaritis, dropsy, mucous polypus, and consecutive hemorrhage. Eight cases ended fatally, five through hemorrhage, one through phlebitis, and two through metritis.

Before the discharge of any hydatid vesicles or of a larger portion of the mole the diagnosis always remains doubtful; with the simultaneous presence of a living fœtus the diagnosis cannot be made with certainty until a portion of the mole has come to view. The phenomena which may lead to the suspicion of an hydatid mole are: (1) vomiting, a tendency to fainting, etc., which with vesicular moles are frequently more severe than with normal pregnancy; (2) a failure of correspondence between the duration of the pregnancy and the development of the uterus; (3) absence of the fœtal heart sounds, the fœtal mass, the movements of the child, and the placental bruit; (4) hemorrhages and their consequences; (5) occasional discharge of portions of the mole; (6) presentation at the os uteri of a body similar to a placenta. The hemorrhages in cases of vesicular mole generally come on early, sometimes in the early months of pregnancy; they vary much in quantity and duration, and are frequently accompanied by a discharge of viscid, ichorous, and fetid fluid. On digital examination during one of these hemorrhages the vaginal portion of the uterus will be felt less relaxed and less prominent than it usually is in cases of placenta prævia. In cases where vesicular mole is suspected the accoucheur should examine, after each hemorrhage, the discharged blood for hydatid vesicles, and should also search in the vagina for detached portions of degenerated

ovum. A protruding portion of vesicular mole and a presenting mole may, according to Krause, be thus distinguished by the finger: when the exploring finger glides along without difficulty the inner margin of the uterine cavity, and between this and the presenting mass, one may conclude with certainty that it is not the placenta that presents.

The prognosis is not so favorable as is generally supposed, for besides the five deaths from hemorrhage and the three deaths from more remote accidents in fifty-three cases, operative assistance was demanded in twenty-five of these cases, and many of the women suffered for a long time from anæmia and hydræmia, and also from extreme debility.

In the treatment one has, besides directing his attention to the associated phenomena and the general condition of the patient, to control the severity and frequency of hemorrhages. So long as the diagnosis is doubtful and the bleeding is not considerable, one has but to support the strength of the patient and to prevent more troublesome symptoms; severe hemorrhage necessitates rest, acid drinks, cold applications to the abdomen, small quantities of opium, etc. When the existence of a vesicular mole has been placed beyond doubt, its removal should be attempted as speedily as possible. When during threatening hemorrhage a portion of the mole can be felt lying in the os uteri, it should be removed with the fingers or dressing forceps; the bleeding will then generally cease in the course of a few days. When the os uteri is not sufficiently dilated, a sponge-tent should be inserted. In some cases a few doses of ergot suffice to bring about removal of the mole. Excessive hemorrhage necessitates plugging, which is best done by using an elastic bag filled with iced water. On failure of the above-mentioned means it becomes necessary to resort to manual removal of the mole, even when no contractions of the uterus are present, an endeavor being made to remove the whole mass at once, and not piecemeal, even when there are no uterine contractions. Removal of the mole by instruments is to be avoided, as by this method the mass may be readily lacerated. In desperate cases where the hemorrhage cannot be arrested by plugging, and where unsuccessful attempts have been made at manual removal of the mole, astringent fluids should be injected into the uterus, and the uterine cavity be plugged with wadding or a portion of sponge previously dipped in some astringent solution. After-treatment is frequently required on account of persisting anæmia and hydrophy.

ART. 235.—On the Spontaneous Separation of the Placenta when it is Prævia.¹

By J. MATTHEWS DUNCAN, M.D.

(*The Lancet*, October 18.)

The author did not in this paper enter on the subject of hemorrhage, desiring to keep in view only the mechanism of separation of the placenta when prævia. He pointed out that during labor every portion of surface of the body of the uterus underwent contraction, and that it was probably to the same extent over the whole of it. But the lower part of the body of the uterus was greatly expanded during labor, and contraction could there be only in the meridional or longitudinal direction. The contraction of the uterus in early labor did not separate the placenta, wherever it might be inserted, whether prævia or not. A small amount of the whole expansion of the cervix, or an early stage of it, when there could be very little contraction, was sufficient to detach partially the placenta. He arrived at the conclusion that the placenta when prævia was separated by expansion, not by shrinking or contraction of the uterus. At present it was universally held to be separated by uterine contraction. The paramount errors of authors, such as Simpson and Barnes, were in supposing that the placenta might be attached to the cervix even near the external os, which it never was, and in not rightly apprehending the behavior of the cervix

¹ Read at a Meeting of the Obstetrical Society of London, October 1st.

during labor. The process of detachment by expansion will go on till the internal os is dilated to a diameter of about four inches, and this may occupy a great part of the whole duration of the labor. Study of the shape of the lower uterine hemispheroid showed that a meridian leaves the vertex or centre of the internal os uteri in a direction nearly at right angles to the uterine axis; and that, after it has described an arc of one and a half or two inches, it becomes nearly parallel to it. At about two inches and a half from the vertex the diameter of the uterine cavity is four inches. There is no need for any considerable expansion beyond a diameter of four inches, which is reached at a meridional distance of two and a half inches from the centre of the internal os uteri. Expansion beyond this would produce very slight extension of uterine surface, and consequently slight detaching power, which would probably be counterbalanced by placental expansibility. Dr. Matthews Duncan pointed out that this was the measure of the spontaneously detaching area, and criticized the various other measurements that authors had made. He showed that Barnes's estimate of three to four inches from the os uteri must be far too great. The circle of latitude, two inches and a half from the vertex, marking this limit was the line of insertion of the placenta within which constituted placenta prævia. Complete detachment of the placenta was to be explained by a study of the production of a caul, and those cases in which the placenta was perforated by the advancing fœtus. Finally, Dr. Duncan called attention to the analogous detachment of the decidua around the internal os, which had been described by Dr. Haussmann, of Berlin.

ART. 236.—*Note on the Muscular Subsurrus in Relation to the Fœtal Heart-Sounds.*¹

By J. BRAXTON HICKS, M.D., F.R.S.

(*The Lancet*, October 18.)

The author wished to call the attention of the Society to a point with regard to the diagnosis of pregnancy and the life of the fœtus, by means of the existence of the fœtal heart-sounds, which he had not unfrequently observed in the course of his practice, but which he did not remember to have seen in print, and summed up his observations as follows: 1st. That the number of vibrations of the abdominal muscles in a state of half suspension can be distinctly counted, watch in hand. 2d. That their number and sound are so like those of a very rapid fœtal heart that they may be mistaken for them.

ART. 237.—*The Diagnosis of Subacute Ovaritis.*²

By E. J. TILT, M.D.

(*The Lancet*, October 18.)

The author suggested that the undervaluing of the part played by subacute ovaritis, as a source of disease in women, partly depended on the lamentable facility with which many practitioners, whenever there was pain in the ovarian region, inferred the existence of ovaritis, partly on account of the real difficulties of diagnosis, of which he gave some remarkable instances. He intimated that another reason might, however, be found in the difficulty of making examinations in young unmarried women. He had found that the most frequent sexual diseases during this period of life (between fifteen and twenty-five) were subacute ovaritis and inflammation of the neck of the womb. When the disorders of menstruation resisted good hygienic and medical treatment, he believed they were generally due to subacute ovaritis and cervicitis. The symptoms of cervicitis he described to be the habitual painless passing of a moderate amount

¹ Read before the Obstetrical Society of London, October 1st.

² Read at a Meeting of the Obstetrical Society of London, October 1st.

of muco-purulent vaginal discharge, with habitual pain in the back; those of subacute ovaritis were constant dull pain deep in the ovarian region, much increased by firm pressure, and extending to the thigh and leg, mammary symptoms, disturbed menstruation, and hysterical phenomena. The positive sign of subacute ovaritis was the finding of an ovoid, smooth, or slightly indented lump beside the womb, or in Douglas's pouch, pressure upon which caused by the practitioner's finger, or during coitus, caused an overpowering and sickening sensation of pain and debility. It might be necessary to confirm this diagnosis by a rectal or recto-vaginal examination. The author expressly stated that it would sometimes occur to a practitioner making a first vaginal examination that, instead of finding any ovarian disease, as he expected, he would detect cervical disease, and in other cases subacute ovaritis would be found when the symptoms would lead him to expect cervical inflammation. He concluded by describing the line of conduct to be adopted by the surgeon for the management of each of the three classes, and sketched the treatment most likely to cure them.

ART. 238.—On the Oxytoxic Properties of Quinia.

By S. HIRAM PLUMB, M.D., of Red Creek, N. Y.

(*American Journal of the Medical Sciences*, July.)

For more than twenty-five years Dr. Plumb has practised medicine in a malarious district, and has very often administered quinia to women in pregnancy without any ill results; in fact, he more fears that a continuance of chills and fever would provoke abortion or premature labor, than that the quinia required to arrest the chills would do so. For more than fifteen years he has also given quinia as an oxytoxic, commencing to use it in cases of labor in patients enfeebled by malarial disease; and, finding that it not only sustained the patient, but seemed to promote delivery, continued the practice until fully convinced that it did promote delivery, and then gave it for that purpose alone in cases of lingering labor, in patients not depressed by malaria. One such case he recites:—

"February 26th, 1869, I was called four miles from town to attend a lady in her third confinement, and who had been similarly my patient in her former labors, the first of which was severe and the second easy. A few minutes after my arrival at the house, under a slight pain she had a copious gush of blood; making an immediate examination, I found myself confronted by 'placenta prævia.' Having nothing more reliable at hand, I administered at once about three grains of quinia, and sent a messenger to my office for ergot and my instruments. The womb responded promptly to the quinia and manipulation; there was but little more hemorrhage, and before the return of the messenger the labor was so far advanced, and the contraction so firm, that she was promptly and safely delivered without the use of ergot or instruments. The child was so exsanguinated that it gave only a few feeble gasps, and all efforts to resuscitate it were unavailing; the mother's recovery was good."

Dr. Plumb thinks, under quinia the labor-pains preserve their natural intermittent character, and do not become a constant pressure, as under the influence of ergot.

ART. 239.—A Safe Method of Inducing Premature Labor.¹

By BEVERLEY R. MORRIS, M.D., Nottingham.

(*British Medical Journal*, September 6.)

The process that Dr. Morris describes is by galvanism, as far as he is aware by an entirely different application of the principle from any before attempted.

¹ Presented to the Obstetric Medicine Section at the Annual Meeting of the British Medical Association in London, August, 1873.

The principle involved was introduced by Mr. Dancer, of Manchester, many years ago, for the purpose of arresting post-partum hemorrhage, and this it undoubtedly effected satisfactorily; but the apparatus was so cumbersome, that few practitioners could carry it about with them, and, probably from this cause, it was never generally used. The instrument invented by Mr. Dancer was so arranged that one pole of the galvanic current could be induced into the uterus, while the other was applied over the abdomen; it was so constructed that either a continuous or an interrupted current could be applied. The instant effect was a powerful contraction of the uterus, and a consequent cessation of hemorrhage.

The application of this principle to the induction of premature labor was made by Mr. John Varley, surgeon, of Nottingham. The mode of using this instrument, modified by Mr. Varley, is to insert the metallic point within the os uteri and then, placing the other pole to the abdomen, pass a slight continuous current through the uterus for ten minutes or a quarter of an hour. This induces a dilatation of the os, which is further increased by substituting a larger conical point, and again continuing a gentle current for a few minutes. In each case in which this method had been used so far, labor has followed in two or three days; but, should this not be the case, it will only be requisite to apply the current daily until it does. The safest way is to expose the os uteri by a speculum, and then insert the point of the instrument through the speculum, which may then be withdrawn over the instrument. The great portability of the instrument and battery will allow it to be readily carried in the pocket, and it is always ready for use at a moment's notice; and the induced current seems to me amply sufficient for the purpose. The arrangement for giving a continuous or broken current is very simple, and entirely and instantly within the operator's power.

The instrument consists of a metallic sound, covered, except at the point, with a non-conducting material, and having a metallic connection at the handle, and so arranged as to be either broken or continuous by a touch of the finger. This intermediate part is connected with one pole of the battery; while the other pole is attached to a metallic tube or conductor for external application, either direct or through the hand of the operator. It is manifest that there are other cases in which it may be most usefully employed, as, for instance, in sluggish or atonic labor, and other similar states.

ART. 240.—*Chlorate of Potassa in Bowel Complaints.*

By ALFRED S. GATES, M.D.

(*American Journal of the Medical Sciences*, July.)

Dr. Gates in this communication extols the efficacy of chlorate of potassa in diarrhœa, especially that occurring as a sequela of measles. He writes: "My own child, aged eighteen months, after an attack of measles, suffered from dysentery; passages occurring every hour or two, which persisted for a month without any relief from the accepted remedies. In my extremity I mentioned the case to a medical friend, who advised me to use the chlorate of potassa in gr. iv doses every two hours; accordingly I prescribed: *R. Potass. chlor. gr. xxxij, syr. simp. ʒss, aq. pur. ʒss*, and gave as directed. After the third dose the character of the discharges was completely changed, the blood and mucus disappeared, and the child made a rapid recovery.

"Measles being epidemic, I saw several cases with identical symptoms following desquamation. In every case the sufferers were relieved by the remedy. Meeting with success, I determined to give it a fair trial in cases which West, in his '*Diseases of Children*,' calls inflammatory diarrhœa. It fully and completely realized my expectations. I have also used it in the dysentery of adults, though with no such decided success as in the above-mentioned cases; though I have reason to suppose that in two cases, in which my faith was shaken, the directions were not followed with any attempt at regularity."

ART. 241.—*Quinia as a Parturient.*

By WILLIAM L. LINCOLN, M.D.

(American Journal of the Medical Sciences, July.)

Dr. Lincoln, in his report on Obstetrics, made to the Minnesota State Medical Society, states that he confidently believes that quinia is a valuable agent when dilatation has taken place, and the pains are not strong; we are sure that we have observed labor materially shortened by the administration of five grains of quiniæ sulph. And again, when the pains are irregular in regard to duration and interval, we have observed, in half an hour after the exhibition of the dose of quinia, regular pains as to strength and interval. One or two marked cases have come under our own observation, which bear upon the subject matter under consideration.

On the tenth day of June last we saw a lady who supposed herself to be in the fifth month of pregnancy, who had been flowing more or less all the time for three weeks, and had been taking remedies to prevent miscarriage, but who for the preceding twenty-four hours had been having occasional labor-pains. An examination revealed a dilating os, but the pains were very irregular, sometimes occurring every four minutes for three or four pains, and then there would be an interval of twelve minutes or more.

After watching the progress of labor for an hour, she got six grains of quinia; in about half an hour we had the extreme satisfaction of observing that the pains were regular and strong until labor was completed, which occupied about an hour and a quarter. The doctrine has been advanced that if it is so certain a parturient, it would be unsafe to administer quinia to pregnant women as a remedy in malarial fevers, for at any time the uterus might be stimulated to take on expulsive contractions. So far as we have noticed, no writer on the subject of malarial fever gives a word of caution on the subject in days gone by, and we suppose that pregnant women have swallowed their portion of the potent drug in question; and if such are the facts, the question arises, why did not the whole malarial region of our land become depopulated in a generation, from miscarriage?

In the month of September two cases presented themselves for a test in this matter, and although the number is too small to be of much moment, yet they seemed to be fair cases for trial. Mrs. W. was the subject of quotidian fever, and desired to have it broken up at once, as she expected to be in labor "any day." She said she was a hard subject to cure of ague, having succeeded in shaking every day for five weeks at one time in Illinois some four years previous. She took thirty grains of quiniæ sulph. in the twelve hours preceding the time for the next chill, and had no subsequent chill or fever. Her confinement was thirteen days later.

A few days subsequent, Mrs. B., reckoning that she was within two weeks at furthest of confinement, being ill of a tertian ague, took twenty grains of quinia in the twelve hours preceding her anticipated chill, breaking the fever just three weeks previous to her accouchement.

We offer these cases not to support a theory, but as simple facts to show that in those cases it proved safe to prescribe quinia in potent doses to pregnant women.

ART. 242.—*Quicksilver given to Procure Abortion, followed by Mercurial Tremors.*

By Sir G. DUNCAN GIBB.

(The Lancet, March 8.)

Sir Duncan Gibb reports the case of a young woman, upon whom, when about three months pregnant, an attempt had been made by her seducer to produce abortion by the administration of two teaspoonfuls and a half of quick-

silver. No effect was produced upon the uterus, but in the course of a few days she commenced to shake on the right side of her body, her gait became unsteady, and she stumbled frequently in walking. When seen by Sir Duncan Gibb she was six months pregnant. The above symptoms were still present, and she could not grasp firmly with the right hand. In a fortnight the shaking had extended to the other side of the body, and the left hand grasped feebly like the right. In the course of the next two months all the symptoms gradually became less, and were scarcely noticeable when she was confined.

There was not any salivation throughout, nor was there any blue mark on the gums as in lead poisoning; they appeared natural. She must have swallowed four ounces and a half of quicksilver.

The above case was remarkable in that the muscles of one side of the body only were first affected by the tremors, instead of the upper extremities, and then they extended to the opposite side of the body.

ART. 243.—*Utero-Placental Vacuum.*

By H. G. LANDIS, M.D., Niles, Ohio.

(*The Western Lancet*, May.)

Whoever has seen a boy's leather "sucker" will readily notice on reflection that it is of very similar mechanical construction to the placenta.

On February 9th, Dr. Landis was called to Mrs. M. one hour and a quarter after childbirth. Her labor had been short, but the midwife in attendance could not deliver the after-birth, although she had spared no effort. Dr. Landis found the placenta partially protruding from the womb by a hard conical eminence a little to one side of the attachment of the cord. Seizing the cord, he made as much traction as it would bear, aiding this by external pressure on the uterus, squeezing the womb, etc., all of which had no effect. The idea of a vacuum then coming to his succor, he perforated the placenta; and on withdrawing the hand from the vagina, it was at once and rapidly expelled as far as the perineum without any traction at all. No clots followed, and the placenta was of medium size.

Cazeaux mentions almost every possible cause of detention, but not this. Dr. Landis is inclined to think that some of the cases generally ascribed to the apparent great bulk of the placenta, due to the formation of clots, are rather of this nature. In the case just mentioned, the predisposing cause appears to have been a capacious vagina, which readily admitted the external air. The immediate cause was traction at an improper time, not before the placenta was detached, for it evidently had been, but before its edge could be felt at the os uteri, after which this or indeed any other difficulties in delivering the after-birth are unlikely to occur.

ART. 244.—*On the Comparative Advantages of Forceps, of Turning, and of Premature Labor in Contracted Pelvis.*¹

By ANGUS MACDONALD, M.D., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and Diseases of Women.

(*Edinburgh Medical Journal*, September.)

Dr. Macdonald concludes an able paper on the above subject by stating that, so far as his own views of practice lead him, they are as follows:—

"1. That, looking at the statistics of Spiegelberg and Litzmann, it seems exceedingly doubtful if the operation of inducing premature labor ought ever to be employed in cases of contracted pelvis.

"2. That turning does not present any proved advantage to the mother over long forceps in cases of contracted flat pelvis (so far, at least, as my

¹ Read before the Obstetrical Society of Edinburgh, June 26th, 1873.

experience and my reading enable me to form an opinion), and is undoubtedly more dangerous to the child. That it is entirely unsuitable when the contraction is general, being much more dangerous to the mother than long forceps, or any of the higher operations.

"3. That in a contracted pelvis, as a general rule, it is on the whole safer to let the case go on to the full term of utero-gestation, and then give the patient a fair trial, so as to ascertain what nature is likely to accomplish unaided, without waiting so long as to allow the mother to run unnecessary risk. Then, in case there is room for the introduction of forceps, they ought to be applied and delivery attempted by their means. If this is impossible, then delivery ought to be effected by cephalotripsy, craniotomy, or Cæsarean section."

ART. 245.—*The Anticipation of Post-partum Hemorrhage.*

By EWING WHITTLE, M.D., Liverpool.

(*British Medical Journal*, August 30.)

The author long ago observed that post-partum hemorrhage was preceded by sharp and strong pains of short duration, with the intervals between the pains relatively very long. To prevent hemorrhage from taking place, the character of the pains must be altered, so as to make them longer and the intervals shorter. This was accomplished by giving a full dose of ergot as soon as the os uteri was fully dilated, if the soft parts were sufficiently lax and dilatable. Dr. Whittle generally gave the equivalent of two drachms of the liquid extract of the *Pharmacopœia*. If this did not act on the pains, he repeated it in an hour, but this he seldom found necessary. Great care was necessary in primiparæ, as the ergot sometimes acted with great energy; as a rule, it was better not to administer it in these cases until the head began to rest on the perineum, and the soft parts were well dilated; the dose also should be small, not more than thirty-five or forty minims, which could be repeated if necessary. The probable *rationale* of the phenomena was this. The uterus was contracting sharply, then relaxing suddenly and fully; the same habit continued after delivery, and the short-lived contraction was followed by complete relaxation and copious gushes of blood; but if the character of the pains became altered before delivery was completed, then the uterus maintained a firm contraction, and the patient was quite safe.

Dr. Desmond (Liverpool) maintained that no woman ought to be allowed to die of post-partum hemorrhage. Compression of the uterus during, and for some time after, expulsion of the child and placenta, was the main point to be observed.

Dr. Kidd believed that the timely application of the forceps was one of the best preventives of post-partum hemorrhage.

Dr. Tracy (Melbourne) was satisfied that chloroform was a frequent cause of flooding.

Dr. Playfair said that the best preventive against flooding was the proper management of the third stage of labor. He attached the utmost importance to the mode of removing the placenta—i. e., to cause the uterus to expel it by its own efforts, and on no account to draw upon the cord.

Dr. Wallace (Liverpool) believed that frequently flooding was the result of too much haste in removing the after-birth, and inculcated the advantage of waiting a sufficient time without any interference whatever.

ART. 246.—*On Retained Placenta, with a New Instrument.*

By ADOLPH RASCH, M.D.

(*British Medical Journal*, August 30.)

The author insisted on the necessity of making a thorough vaginal examination in cases where hemorrhage or pains, or both, continue after alleged abor-

tion. Retroflexion might be present after abortion, which ought to be rectified, and, if necessary, a pessary applied. But very often the abortus was not over, the foetus being still retained in spite of the contrary assertion. By cold irrigation properly applied in some seemingly desperate cases (from *partial* detachment of ovum), the foetus might sometimes still be saved. But where we saw no chance, and where ergot and cold did not stop the hemorrhage, or the tampon did not bring away the contents of the uterus, extraction was indicated. In most cases, it could be done by the fingers in the vagina and outward fixation of the uterus. But still cases occurred where the retained placenta could be touched but not brought down, and where prolonged and dangerous hemorrhage made the speedy removal imperative. The instruments contrived for that purpose seemed to the author all to have the fault in common, that the operator did not feel what he had hold of. The author's instrument was a sensitive forceps, one-half of which consisted of the index finger, the other half of a scoop, with a finely-toothed bowl, just large enough for the tip of the index finger, on which it was introduced through the os. The instrument was then pushed up on the outer side of the placenta—the index guiding, and at last pressing, the latter into the bowel. Three fingers of the same hand performed, by pressing the stem into the hollow of the hand, what was necessary to transform this single blade or this half forceps into a complete one. Thus all danger of injuring the uterus was obviated, and a firm purchase of the placenta or membranes effected. After five years' trial Dr. Rasch warmly recommended his simple and cheap instrument.

ART. 247.—On the Management of Labor in the Common Forms of Contracted Pelvis, with Remarks regarding Diagnosis.

By OTTO SPIEGELBERG, M.D., Breslau.

(*British Medical Journal*, August 30.)

The forms of contracted pelvis most commonly met with in practice were described by Dr. Spiegelberg as being: 1. The amply flat pelvis (contracted only in the conjugate diameter); 2. The generally and uniformly contracted pelvis (pelvis *aequaliter justo minor*); 3. The generally contracted flat pelvis (a combination of forms 1 and 2). The means of diagnosis of these forms were pointed out, and the mechanism of labor in the various conditions, and the plans of treatment to be followed, were described.

ART. 248.—On a Digital Impression produced by the Accoucheur in the Cranium of a Fœtus during Birth—its History and Results.

By J. MATTHEWS DUNCAN, M.D., Edinburgh.

(*British Medical Journal*, August 30.)

The case was one in which Dr. Duncan, while producing artificial rotation of the head in a case of narrow pelvic outlet, made with his finger an impression in the parietal bone to the depth of about half the thickness of the finger. The result was slight, short, but very frequently repeated epileptiform seizures, which lasted for some time after the digital impression had disappeared, and which at first were gradually modified, and afterwards became replaced by slightly awkward movements, somewhat choreic in appearance.

Dr. Steele (Liverpool) suggested that rotation of the foetal head at the outlet might be effected by the forceps more readily and with less risk of injury than by continued pressure on one point of the cranium by the finger.

Mr. Bassett (Birmingham) said that severe injuries to the child had sometimes occurred during hard labor; as a rule, they were rapidly recovered from, although occasionally permanent mischief ensued. He had seen paralysis of the right side from this cause, but had never known mental disturbance to follow such accidents.

Dr. Ringland (Dublin) considered the case related quite exceptional. The restorative power after injuries to the foetal head during labor was considerable. He had seen many cases of injury produced before labor set in from falls or blows by the mother. In two cases the pregnant women had falls some time before labor. The child in each instance was born with a fracture of the occipital bone—both recovered. These injuries are uncertain in their result; they may, or may not, do harm to the child.

Dr. Atthill (Dublin) doubted whether mental disease or paralysis in these cases was really the result of the injury. He thought the forceps not unfrequently caused mischief, and that they were used too frequently in the present day.

Dr. Thompson (Edinburgh) felt satisfied that the beginning of mental disease had been frequently traced to injuries at birth. He knew one case where the head was so injured by the forceps that it was now, at the age of eight years, a helpless idiot. He considered it important in forceps delivery to avoid sustained pressure on one point of the foetal head.

Dr. Denham (Dublin) said that, granting there was a certain risk of injury to the child, it was better to incur that risk than to jeopardize the life of both mother and child, by delay. The older he grew, the more value he attached to the forceps as an obstetric instrument—with ordinary skill and caution, it was as safe as the catheter.

Dr. Kidd (Dublin) strongly advocated the use of the forceps; he doubted the connection between hard labor and convulsions. The head is often much deformed after natural labor, without causing any mischief. He had known both sloughing of the scalp and paralysis to occur after unassisted labor. These cases almost invariably recovered rapidly.

Dr. Fitzpatrick (Liverpool) spoke in favor of the use of the forceps.

ART. 249.—*Tedious Labor from Debility, and its Treatment.*

By HUGH MILLER, M.D., Glasgow.

(*British Medical Journal*, August 30.)

The remarks in this paper had reference solely to cases in which delay was due to enfeeblement or failure of the natural powers of the organs specially called into action during parturition. The writer held that the element of time should not be considered in the classification of labors, that it was unscientific to do so, and that uncomplicated labors should only be assumed to be unnatural when the pains were no longer active, and the labor non-progressive. After considering the powers of expulsion in a healthy woman, the author referred to the forces at work which prevented a high standard of health from being maintained in city life, and said that, in proportion as it was wanting, labor was prolonged in many cases. Labor in cities was thus frequently tedious from constitutional debility, so that, even while it might be regular and its progress certain for a time, the pains either lingered or became arrested through exhaustion taking place before the labor was completed. When symptoms of acute fatigue set in, the pains were short and sharp, and they recurred more frequently. The general indications for treatment were to support the strength before labor set in, and during the first stage, and, as soon as the pains indicated debility, to deliver with the forceps. The timely application of the forceps was preferred to ergot, because it seemed more reasonable to assist a weakened organ by giving help from without, than by applying a stimulant to an already overworked one. This practice, instead of inducing flooding, helped to prevent it, through preserving the power of the uterus from becoming exhausted; it also prevented inflammatory diseases of the passages, and the death of the foetus. In his private practice, he found one case in every twenty-six labors show symptoms of debility; and, since he had adopted the early application of the forceps, not one of the children so delivered was stillborn.

ART. 250.—On Some Improvements in the Construction of the Long and Short Forceps, and their Use in Midwifery Practice.

By T. MORE MADDEN, M.D., Dublin.

(*British Medical Journal*, August 30.)

The author observed that obstetric medicine, having for its ends the lessening of the dangers and the abridgment of the sufferings of child-birth, had of late years been much advanced in both respects by the more frequent and timely use of the forceps. To the numerous attempts to improve its construction he had ventured to add some modifications in the long and the short forceps. As an examiner in midwifery, he had had occasion to learn that, notwithstanding all that had been recently written in favor of the forceps, its application was still regarded with prejudice by many, and that, in some of the text-books most in vogue with students, its employment was restricted by rules originally laid down by writers whose experience of this instrument was limited. Dr. Madden cited the statistical reports of the Dublin Lying-in Hospital from the earliest period, to prove the almost complete desuetude into which the forceps fell for a long time, as well as the saving of human life and of human suffering which had resulted from its reintroduction into modern obstetric practice. He also laid before the Section seven tables containing the particulars of his own forceps cases from May 1st, 1868, to July 6th, 1873. These cases amounted to 148, of which 88 occurred in the hospital, and 60 in private and consultation practice. The patients' ages varied from 17 to 48, the most frequent ages being 28 and 31. The duration of labor varied from under four hours to eighty-four hours. In 79 instances, the cause of interference was inertia; in 27, disproportion; in 11, malposition; in 4, hemorrhage; in 4, convulsions; in 1, rupture of the uterus; in 7, rigidity. The instruments used were Dr. More Madden's short forceps in 72 cases, the hospital short forceps in 36, the hospital long forceps in 23, and Dr. More Madden's long double curved forceps in 14 cases. The instruments employed by Dr. Madden differed in several respects from any other forceps. He regarded the long and short midwifery forceps as perfectly distinct instruments in their construction, and in the purpose for which they were intended. Dr. More Madden's short straight forceps weighed only eight ounces, and was a very powerful tractor. This instrument was intended only for cases of delay in the second stage of labor, and might be used with wonderful facility as well as power. The long double curved forceps was intended for a very different class of cases—viz., those in which a degree of difficulty existed (before the head of the child had passed through the brim of the pelvis) that could not be overcome by the use of the ordinary long forceps, and in which craniotomy or cephalotripsy might therefore have been resorted to. Dr. More Madden's long forceps was described as a double curved instrument of great weight and length, possessing great powers of leverage and compression. At the extremity of the movable handles a screw was affixed, by which the amount of pressure exercised on the child's head might be exactly regulated. The curves of the blades were peculiar, and were so arranged that the compressive force exerted on any one point of the head, as well as the danger of slipping, were reduced to the minimum. The cases in which these instruments should be employed, as well as the manner of applying them, were then fully described by the writer.

Mr. Bassett (Birmingham) protested against the too frequent use of the forceps, and thought that once in six cases was too often to employ it. He considered all short forceps defective and inefficient.

Dr. Graily Hewitt (London) expressed his astonishment at hearing the use of the forceps forbidden or restricted. Whenever there was no progress for two hours with regular pains, the forceps should be used.

Dr. Steele (Liverpool) failed to discover any improvement in the instruments now shown over the forceps originally devised by Mr. Roberton, of

Manchester, and improved upon by the late Sir James Simpson, and now perhaps more generally used than any other form. The essential points in the forceps, he maintained, were strength and sufficient length of handle, the pelvic or second curve, and parallel shanks in front of the handles. The forceps constructed on this principle were adapted for every position of the head, thus obviating the necessity for more than one pair for all cases. He had written some years ago in favor of a more frequent use of forceps than was recommended in most text-books, and subsequent experience had confirmed this view, which had been anticipated and endorsed by our most eminent obstetricians. Statistics had abundantly shown that the maternal and foetal death-rates were diminished in a direct ratio to the frequency with which the forceps were used.

Dr. Kidd (Dublin) said that the Dublin obstetricians, with but few exceptions, preferred the straight forceps, and recommended their prompt use in retarded labor.

Dr. Wiltshire (London) objected to long forceps in ordinary cases.

Dr. Atthill (Dublin) maintained that the use of the forceps in competent hands did not increase the danger to the perineum. In Dublin it was the general practice not to deliver by forceps without a consultation.

ART. 251.—*On the Diagnosis of Early Pregnancy.*

By ADOLPH RASCH, M.D.

(*British Medical Journal*, August 30.)

The object of the paper was to draw attention to an important symptom of pregnancy of the first three months, of which until now no notice has been taken by French, English, and German authors. After briefly reviewing the early symptoms as taught in handbooks, including the symptom on which Dr. Barnes laid stress before this Association, Dr. Rasch said that no opinion should be expressed in any case unless the uterus had been made out beyond doubt by the bimanual examination. The vaginal examination should always be made by *two* fingers, unless circumstances forbade it, as by so doing results much more accurate could be obtained. An enlargement found, the distinction had to be made between enlargement by hypertrophy, or by tumors, and enlargement by pregnancy. To solve this difficulty, the author has continued his investigation in a very large number of cases of which he kept notes for nearly ten years, and enlarged experience has fully borne out what had helped him in making a few times a right diagnosis where better men had failed. This important symptom was fluctuation. That it must be felt very early seemed to him, *a priori*, certain. For why should half an ounce or more of liquor amnii, inclosed under conditions very favorable for this purpose, not be felt fluctuating equally well as a few drops of pus in a panaritium? The notes of several hundred cases satisfactorily answer this question. Fluctuation could be felt in some cases as early as the seventh week of pregnancy; in most cases after the second month. With every following year the author had less difficulty in detecting this very important symptom. By adding to it the areolar signs of the mammae, we should be able in many cases to make an almost certain diagnosis. The author here mentioned another valuable symptom in early pregnancy which often directed attention to pregnancy—viz., the increased desire to pass urine, especially at night. It certainly ought to put the practitioner on his guard, and make him eschew the use of that valuable instrument for confirming a diagnosis already made—the uterine sound—which, in fact, should never be used by those that could not dispense with it in making a diagnosis. The objection to fluctuation as a symptom of pregnancy might be that it could not be felt, or if felt, might be due to retention of other fluid than liquor amnii. Considering the great rarity of retained menses or other discharges, the mistakes would be rare, even if other symptoms did not help us to make a distinction. But it would certainly be safer practice for a short time to suspect pregnancy, where it did not exist, than to do the reverse. To meet the other objection, that fluctuation

could not be felt so early. Dr. Rasch urged his hearers to try patiently, and assiduity would be rewarded. The best way to feel it was to introduce two fingers into the vagina, while the other hand steadied the womb through the abdominal walls, and alternately to manipulate the uterus with the two fingers. In some part of the uterus the fluctuation would be found often in one corner of the fundus, sometimes lower down. In most cases of early pregnancy, the author found the uterus anteverted, and then the manipulation was easier done than when the womb was retroverted. The fluctuation was in the beginning mostly only felt by the fingers in the vagina, sometimes, too, by the outer hand at the same time. After three months, it would be mostly felt by outward manipulation alone, but we should never trust to that only. The catheter should always be introduced when accurate results were desired.

ART. 252.—*Apoplexy, with Convulsions and Hemiplegia, in the Puerperal Period, Terminating in Recovery.*¹

By A. B. STEELE, L.K.Q.C.P., Lecturer on Midwifery, Royal Infirmary School of Medicine, Liverpool.

(*British Medical Journal*, August 30.)

The following case being, so far as Mr. Steele's observation extends, of an unusual, if not unique, character, and presenting features of much interest, he has deemed it worthy of record.

"The patient is a young Jewess, of florid, dark complexion; of low stature, inclined to fulness; of a highly nervous and excitable temperament. She suffered in childhood from chorea, brought on, it was supposed, by a fright. This was relieved by prolonged treatment, including the baths and waters of Schwalbach. She married about three years ago, being then seventeen years of age, and became immediately pregnant, when the chorea returned, and, during the early months, was very severe and distressing, yielding, however, under a course of valerianate of zinc and aloes. Her first labor was in all respects favorable, except that the child, a male, was stillborn. She was confined a second time in less than twelve months, of a fine healthy male child, in February, 1872; and a third time in February, 1873, of a living female child. Both these confinements were favorable, and her condition has been satisfactory, the only indications of nervous disturbance consisting in slight occasional choreic twitchings of the limbs. Her last labor was rapid and easy; the membranes ruptured without pain, or, at least, with pain of the slightest possible degree, about forty-eight hours before active labor set in, and all was over in a few hours; the child being born before my arrival. Everything went on perfectly well for the first two weeks. I saw her on the thirteenth day, and found her doing most favorably in every respect. On the morning of the fourteenth day, she complained of a peculiar oppressive sensation and confused feeling in the head, and begged the nurse to send at once for the doctor. On my arrival about two hours afterwards, I found her just recovering from what appeared to have been a puerperal convulsion, and was told that this was the second distinct fit since her seizure. She was unconscious, with stertorous breathing, and could not be roused; the tongue protruded between the teeth, but was not bitten severely, although the jaws were rigidly closed. There was not the extreme fulness and turgescence of the veins of the head and neck usual in severe forms of congestive eclampsia; the pulse was full and bounding; the tongue clean. The bowels had been freely relieved shortly before. I opened a vein in the arm: but, after the escape of about six ounces of blood, eclampsia came on, which obliged me to tie up the arm. This fit was only slight, appearing to be cut short by the immediate rapid administration of chloroform, which threw her into a quiet sleep, free from stertor or signs of distress. A large enema of

¹ Read before the Obstetric Medicine Section at the Annual Meeting of the British Medical Association in London, August, 1873.

turpentine was administered; and ten grains of calomel were given by the mouth, followed by castor-oil. There was no return of eclampsia, but she remained unconscious until night, when she began to improve, and had some natural sleep.

"The following morning, she appeared much better; but, on proceeding to change her linen, it was found that she had lost both sensation and motion in the left arm and leg; the bladder was also paralyzed, requiring the catheter. She was quite conscious, but excessively restless, excited, and unmanageable, talking coherently, but without intermission, in spite of all attempts to keep her quiet. The tongue was clean; pulse 80; temperature normal; urine free from albumen. The bowels had been copiously evacuated. She complained of pain in the right temple; the tongue and face were slightly drawn to the left side; pupils natural. A blister was applied to the neck; ice-bladder to the shorn scalp; and forty drops of Battley's sedative were thrown into the rectum. This procured a few hours' sleep; but, the next day, the restlessness and unceasing talking recurred. A second opiate *per rectum* failed to quiet her; but a scruple of chloral hydrate gave sound sleep for several hours, after which she was calmer and quieter, and free from headache.

"For the four following days she remained in a state of alternate sleep and excitement; the chloral, in half-drachm doses night and morning, kept her quiet for several hours during each day; but, in the intervals, the restlessness and constant talking were most distressing. She was occasionally incoherent, and evidently had delusions; believed she was dying; felt an uncontrollable impulse to bite those around her, and did actually seize the nurse's arm with her teeth. She was only prevented from further violence by her helpless condition from the paraplegia. Her condition now caused much anxiety, as it assumed the appearances of puerperal mania, the prognosis being still more unfavorable from the circumstance of an hereditary tendency to insanity. The chloral now appeared to lose much of its calmative effect, and a full dose of Battley was substituted; but the result was not satisfactory; and therefore it was determined to try the endermic use of morphia. One-fourth of a grain at once procured good sleep, from which she awoke much refreshed and comparatively calm. This was repeated every twelve hours for four or five days, during which time the excitement passed away, and natural sleep returned. The bladder gradually recovered its action, but the hand and arm remained completely paralyzed as to motive power—sensation, however, being restored. She continued to improve; and, at the end of the fourth week of the attack and the sixth week since her labor, she was able to leave her bed; and, in a few days, was removed to the sea-side.

"At the present time, she has so far recovered as to be able to walk fairly without assistance for upwards of a mile; the power of the upper extremity is almost entirely restored, that of the leg becoming progressively greater; and there is every prospect of complete recovery."

ART. 253.—*On Transfusion of Blood.*

By H. M. MADGE, M.D.

(*British Medical Journal*, August 30.)

Dr. Madge said that he brought this subject before the Association with the view of increasing the stock of information desired by the Committee of the Obstetrical Society. He noticed the several ways in which transfusion had been performed, viz.: 1. Transfusion with defibrinated blood; 2. Transfusion with pure blood; 3. Immediate transfusion from vein to vein; 4. Immediate transfusion from artery to vein; and gave a summary of the opinions of Playfair, De Belina, Higginson, Braxton Hicks, Richardson, Savage, etc. Of the four plans all might at present be used with an equal chance of success, but transfusion with defibrinated blood was the easiest mode. Direct transfusion from vein to vein, as described and recommended by Dr. Aveling, was apparently rather more difficult than the mediate method, but, with a little practice

with Dr. Aveling's simple and effective instrument by passing water through it, the operation would become much easier. The cases of undoubted success which had attended transfusion should encourage the attempt to find out the causes of its failure. In conclusion, Dr. Madge suggested the following subjects for further inquiry: (1) The exact time at which human blood coagulates when drawn from a vein; (2) Does blood, when injected into a vein, go direct to the heart, or does it become lost or diffused in the general venous system? The effects of transfusion (3) with blood kept in a state of non-coagulation by means of phosphate of soda; (4) With blood containing ammonia; (5) With milk; (6) With defibrinated blood; (7) The microscopic appearances of defibrinated blood; (8) The effects of transfusion, by Dr. Aveling's plan, on animals of the same species; (9) Transfusion with blood in its natural condition; (10) Experiments to show whether the blood of animals can be introduced with impunity into the human system; (11) Transfusion with defibrinated blood, with the addition of ammonia or phosphate of soda; (12) Transfusion with saline solutions.

ART. 254.—*Injection of Perchloride of Iron in Post-partum Hemorrhage.*

By W. S. PLAYFAIR, M.D., F.R.C.P.

(*The Obstetrical Journal*, May, 1873.)

Dr. Playfair states that he recently had a case in which he employed perchloride of iron, and firmly believes he saved by it the life of his patient: "yet very grave and even alarming symptoms followed, due, it can hardly be doubted, to its employment." When the iron was injected, although the hand was in the uterus, and the clots within it had been as much as possible removed, blood was still pouring out abundantly. The powerful astringent at once corrugated all the blood and coagula it came in contact with, and these hardened clots filled up the uterus and the canal of the vagina. In due course these began to decompose, and septic absorption took place. By the finger and the intra-uterine injection they were gradually broken down and removed. The improvement unquestionably dated from the expulsion of the two large and decomposing coagula on the sixth and seventh days after delivery. Immediately after this happened, the temperature and pulse fell remarkably, and recovery commenced and continued uninterruptedly.

"What, then, is the lesson to be learnt from this case? Is it that the risk is too great, and that the injection of the perchloride of iron should be banished from practice? I think most unquestionably not. I have little doubt, knowing what I did of the patient's former labor, and having already tried in vain all the anti-hemorrhagic treatment at our command, that without the perchloride the flooding would have proved fatal. It is, indeed, precisely in these inveterate cases, where every means of inducing uterine contraction proves unavailing, that it forms so invaluable a resource. Rather, I think, it should teach us to limit its use to these only, as, I believe, Dr. Barnes has all along taught. It shows also that the retention in utero of hardened coagula, liable to decomposition, may prove a source of danger hitherto unsuspected. With a knowledge of this fact it would be our duty to secure the expulsion of the coagula as soon as possible after all risk of hemorrhage had ceased, and make sure that there was a free exit for the discharge.

"This would best be done by satisfying ourselves on the second or third day after delivery that the vagina is not filled with clots, and removing them if present, and by using antiseptic intra-uterine injections freely, as in the above case, should suspicious symptoms arise. With a knowledge of this source of danger it might probably be avoided in most cases."

ART. 255.—*Urgent and Prolonged Dyspnœa coming on suddenly after Labor.*

By J. J. PHILLIPS, M.D., Assistant Obstetrical Physician to Guy's Hospital.

(*British Medical Journal*, May 3.)

Dr. Phillips relates the following interesting case of this in a married lady, aged thirty-six, to whom he was called December 30th. She had been delivered of her fifth child at 2 P. M., after a perfectly natural labor, and continued to do well until 6 P. M., when she complained of oppression, and began to gasp for breath. Dr. Phillips saw her at 9 P. M., when her condition was most alarming. She was sitting up in bed, supported by pillows; the dyspnœa was most urgent; respirations 48, pulse at wrist 140; "respiratory murmur could be heard over the chest in front and behind; there was no abnormal sound accompanying the heart's action, but the first sound was muffled; the legs and the forearms were quite cold; the lips were livid; the face was pallid. She endeavored, on one or two occasions, to speak, but could only articulate one word at a time. The history of the case, and the symptoms, seemed to point unmistakably to a coagulum in the pulmonary artery, and it seemed to us that the treatment should be directed to support the heart's action as much as possible, and this was done by repeated doses of brandy, which, with some difficulty, were swallowed in soda-water. Five-grain doses, increased to ten grains, of carbonate of ammonia, were given at short intervals, and warmth was applied to the extremities. I remained about an hour. The case seemed hopeless. At nine o'clock next morning, however, I found her much relieved. She was able to assume more nearly the horizontal posture; the extremities were warm; the breathing was much more easy, and only 30 per minute; the pulse still very small, 120 per minute; temperature in the axilla, 97° Fahr. Symptoms of improvement had commenced about four in the morning. Her husband and another medical man who sat up during the night, believing that the carbonate of ammonia was doing good, had continued its use in increased doses, so that in twelve hours she had taken two hundred and ten grains of it. The stomach tolerated this large quantity in a remarkable manner. 'She was a little sick two or three times.' The brandy had also been continued, and she had taken a little beef-tea in the early morning. In the evening she was in much the same condition as in the morning; frequency of pulse and respiration the same; temperature only half a degree higher (97.5° Fahr.). She still complained of pain in her chest. During the night some hours of sleep were obtained, and the next day she was more comfortable in every respect. The respirations had fallen to from 20 to 25 per minute; temperature 99° Fahr.; no abnormal cardiac sound. The strictest rest was maintained. On the sixth day there were some pyrexial symptoms, and on the seventh she began to suffer from severe sickness." She, however, soon improved.

Dr. Phillips thinks that it is impossible to explain the symptoms in this case upon any other hypothesis than that of pulmonary embolism. He thinks it "probable that a loose clot which had formed in the right side of the heart was driven into the pulmonary artery, giving rise to the urgent dyspnœa which supervened so suddenly. The patient told me that throughout the day she had felt a little shortness of breath. Given that a clot found its way into the pulmonary artery, it is, of course, quite conjectural what changes took place in it, but it is not improbable that a loose clot might undergo such contractions as to allow the gradual re-establishment of the circulation, coincident with the slow improvement in the general symptoms. Different opinions will doubtless be entertained as to the share which the carbonate of ammonia had in relieving the symptoms, by reducing the hyperinosis of the blood which existed at the time. The large quantity of this alkali which was taken in twelve hours is especially deserving of notice. I am not aware that it has been given continuously for twelve hours in such large doses at such short intervals. Dr. Rich-

ardson, in one of his valuable contributions to the subject of thrombosis, gives reasons for administering the liquid ammonia rather than the carbonate, but when this case occurred I had not read Dr. Richardson's remarks on this point. Another fact of interest in the case now reported is the low temperature which continued throughout the day succeeding the most severe symptoms."

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 256.—Confirmed Hysteria in a Female without Vagina and Uterus.

By Dr. J. CASTIAUX.

(*Bulletin Medical du Nord*, No. 4, 1873; *Gazette Hebdomadaire*, No. 26, 1873.)

Dr. Castieux records the clinical history of a young woman, aged nineteen years, who was a patient in the Hôtel-Dieu, under the care of M. Fremy. On very careful examination he made out that the vagina and uterus were absent, although the external genitals were perfectly formed. This patient presented the following symptoms:—

Her humor, which had been variable for a long time, presented the remarkable mobility peculiar to hysterical subjects: she was sometimes merry, at others sad, and often suddenly passed from laughter to tears without any serious motive.

At times her abdomen became distended, the tympanites after a time disappearing spontaneously. There was obstinate constipation. The innervation of the bladder was not less disturbed than that of the intestine. The former organ was sluggish, and did not readily empty itself. The excretion presented all the characters of mucous urine.

The patient also complained of that well-known ascending constriction which proceeds from the epigastric region to the throat (*globus hystericus*). From time to time she coughed as if to free herself of a foreign body placed at the entrance to the larynx. To these phenomena were added continued and uncontrollable vomiting.

In the midst of all these affections the pulse remained normal, and the innervation of the heart undisturbed. The axillary temperature did not exceed the physiological standard.

Sensibility presented marked changes; certain cutaneous zones were the seats of complete analgesia. The left leg and foot were completely insensible. The corresponding thigh was sensible only on its anterior surface; the external, internal, and posterior surfaces were dead to all impressions. The anæsthesia extended to the right half of the vulva, whilst the labia majora and minora preserved their sensibility. From the umbilicus to the xiphoid appendage the integument on the right side was insensible as far as the linea alba; on the left side it was sensible, save along a zone of the breadth of two fingers. There was complete hemi-anæsthesia of the trunk, neck, face, and superior limb on the right side, the insensibility being arrested exactly at the middle line.

At the conclusion of this report, which was rendered incomplete by the precipitate departure of the patient, who voluntarily quitted the hospital after a stay of some weeks, the author states that the absence of the vagina, uterus, and probably of the ovaries in this case, exclude any relation between the nervous trunks and the organs in question. This malformation is not incompatible with the manifestation of the characteristic features of confirmed hysteria.

ART. 257.—On Vaginismus and its Treatment.

By Professor BREISKY.

(*Schmid's Jahrbücher*, No. 6, 1873.)

The author has observed three forms of this affection. The first form is generally met with in childless women, who in other respects are quite healthy,

and whose genital organs appear to be free from disease; the patient complains at first of abnormal sensibility during sexual intercourse, which act after a time is rendered impossible by reason of the pain. In cases of this kind the hymen is generally found intact, and on inquiry it will often be found that the husband is, temporarily at least, impotent. In the second form of vaginismus there are local lesions which cause irritation, and, as a result of this, reflex spasm of the constrictor vaginae: these lesions consist in fissures or small ulcerations about the hymen, constricting cicatrices at the entrance to the vagina, tumors, excrescences in the vagina or urethra, new growths in the rectum, etc. This form occurs often in women who have just been delivered. The third form appears as one manifestation of a general neurosis, as hysteria, and always persists after the removal of any coexisting morbid condition of the genitals, as catarrh, erosions, etc.

With regard to treatment, the author protests against a too energetic local treatment, as frequent irritation only increases the evil. In young girls an injection should never be made before the entrance to the vagina is dilated. It may be laid down as a general rule that the ordinary plans of treatment, such as the use of astringents, the application of cold, bleeding, and the administration of chloroform and the salts of morphia always fail in bad cases. When a new growth or excrescence is present, its removal is of course indicated. The method of gradual dilatation will too often cause irritation, and ought, therefore, to be rejected. Forcible dilatation is the most suitable treatment for the first class of cases; the hymen should be first incised if it is not otherwise possible to pass into the vagina the three applied blades of a Segalas's speculum; if the membrane cannot be traversed without an incision being made, the speculum should be at once introduced into the vagina, and the blades then energetically expanded, so as to tear through both the hymen and some fibres of the constrictor lunni.

After one or two repetitions of this operation after intervals of two or three days, a middle-sized Fergusson's speculum can generally be introduced in order to bring about a complete cure.

ART. 258.—*A Theory of Chlorosis.*

By M. LUTON.

(*Bulletin de la Société Médicale de Reims*, No. 10; *Gazette Hebdomadaire*, No. 34, 1873.)

Chlorosis is an anæmia which, according to Dr. Luton, singularly resembles hemorrhagic anæmia. Is it not actually an hemorrhagic anæmia? Putting on one side hemorrhagic chlorosis, might there not be some part of the body from which a latent flow of blood takes place, leading to all the proper symptoms of chlorosis? M. Luton compares the classical symptoms of chlorosis and the symptoms caused by hemorrhagic erosions of the stomach, and arrives at the following conclusions: 1. Chlorosis and certain forms of gastric ulcer are peculiar to the female. 2. Disorders of menstruation are common to both cases; indeed, Brinton mentions suppression of the menses as a cause of simple ulcer in girls arrived at the age of puberty; this variety of ulcer has even received the name of menstrual ulcer. 3. In chlorosis, amenorrhœa has its natural correlative in auxiliary hemorrhages taking place in the stomach as in other organs. 4. The gastralgic phenomena which are essential in simple ulcer are equally frequent in the course of chlorosis. 5. Hæmatemesis manifesting itself without pain would correspond to cases where chlorosis exists without gastralgia. 6. Anæmia, a symptom so characteristic in chlorosis, is met with also in simple gastric ulcer, and then gives rise to a special cachectic condition. 7. Finally, this parallelism is confirmed by the results of treatment, perchloride of iron being a very efficacious remedy both for erosions of the stomach and for chlorosis. M. Luton endeavors to make it understood that the hemorrhage which gives rise to chlorosis may be produced in any other organ, and does not take place in the stomach alone.

ART. 259.—On Prolapsus of the Womb.

By WILLIAM GOODELL, M.D.

(Philadelphia Medical Times and British and Foreign Medico-Chirurgical Review, October.)

Dr. Goodell attempts to explain that hypertrophic elongation of the supra-vaginal portion of the cervix, so often met with in old-standing cases of prolapsus, is in no sense a true point, but is a secondary accident, the result of elongation consequent on the traction exerted by a primary prolapse of the vagina and bladder. This is, he thinks, specially apt to occur where the womb is ductile, either from congestion, or through the arrest of post-partum involution, so that it yields more readily to traction. In the treatment he rejects the very difficult and dangerous operation of the removal of a portion of the cervix above the vagina as unnecessary, and is content with removing a portion of the supra-vaginal cervix. It almost always succeeds in curing the disease, and its success is, he holds, an unfailing proof of the correctness of his theory.

ART. 260.—Two Cases of Excoriation of the Os Uteri.

By R. J. HALTON, M.D.

(Dublin Journal of Medical Science, Sept.)

Dr. Halton places on record the following cases:—

Catherine C., delivered of her tenth child May, 1872, complains of great weakness when she attempts to stand or change her position. Very low spirits and loss of appetite in the morning, while in the evening she finds it difficult to believe there is anything the matter with her. Tongue whitish and curdy. Well-marked purple line on gum border. The speculum showed a large raspberry excoriation on both lips of the uterus. There was no irritability of the bladder and no pain. The treatment consisted of astringent injections night and morning, and the excoriations were touched weekly with the nitrate of silver. She was directed to take two-grain doses of quinine thrice daily.

Sept. 20th.—Excoriations healed. There was no notable improvement in the spirits until the excoriations were almost healed, and then suddenly she got rid of all inconvenience.

Mrs. P., aged thirty. Last child four weeks old. Felt some difficulty in walking when she got up first after her confinement. Complains now of a burning pain internally and great irritability of the bladder. She is rather nervous, and fears she may be laboring under some fatal disease. Appearance healthy, pulse quiet; tongue clean, and appetite good; uterus somewhat lower than usual. The speculum shows a raw-looking papilla, or granulation, just inside the posterior lip of os, and some smaller ones on the anterior lip. The excoriation was touched with strong tincture of iodine, then with nitrate of silver, but finally with carbolic acid. She took internally sulphate of quinine, and occasionally a potash tonic mixture, and used astringent injections night and morning. Her improvement was very gradual, and she was not perfectly cured until July.

ART. 261.—Amenorrhœa from Congenital Malformation.

By F. CHURCHILL, M.D.

(British Medical Journal, August 9.)

At a meeting of the Dublin Obstetrical Society, May 10th, Dr. Churchill read a paper on this subject. To make an accurate diagnosis was often difficult, and yet the question of relief depended upon this point. The means of forming

a diagnosis were either physiological or physical. The first dealt with the presence of the menstrual molimen and of sexual gratification, etc. By means of the second, we judged of the presence or absence of the different organs of generation. A most useful method of examination was that termed the bimanual manipulation. Dr. Churchill related twelve cases in illustration of his subject, in some of which the ovaries were either not present or were in an infantile state, undeveloped, and not acting; while in others the fault consisted in the absence of uterus, or in congenital closure of the os uteri (one case). As regards treatment, of course in most cases nothing could be done; but to remedy an undeveloped state of the uterus, Sir J. Y. Simpson had recommended the use of a galvanic pessary. A practical question was, whether we think that a patient ought to marry in whom these defects were discovered. However reluctant we should be to condemn her to a single life, it should not be forgotten that another person is concerned in the matter, and therefore the decision against marriage is called for, or, if she be fully bent upon marrying, the other party ought to be fully informed as to the existing defect.

Dr. Ringland described a remarkable case of unilateral development in a young lady, aged twenty, who had never menstruated naturally, but in whom vicarious discharges at each monthly period had occurred for more than four years, through the bladder, rectum, nose, or eyes. The left side of her body was perfectly developed sexually, while the right was not so. The left breast was normal, the right resembled that of a girl of twelve; there was hair on the left side of the pubes, none on the right; the left labium was fully formed, the right was almost wanting. The clitoris, vagina, and uterus were absent. The left ovary could be felt, but the right could not be detected. Sexual desire existed in this case, but a strong opinion as to the inadvisability of marriage was given.

Dr. Kidd and the Chairman (Dr. Atthill) alluded to the great use of the galvanic pessary in cases where the uterus or ovaries were not absent, but merely in a rudimentary or infantile condition.

ART. 262.—On Endometritis.

By LOMBE ATTHILL, M.D.

(*Dublin Journal of Medical Sciences*, May.)

Dr. Atthill fully recognizes the impossibility of effectually curing cases of this kind, except by appropriate intra-uterine medication. The practice he recommends is the free cauterization of the cavity of the uterus with the piercing nitric acid, a method he has constantly adopted, and which has, in no single case, been followed by bad results. He generally commences by local depletion of blood; then he applies his remedy through an instrument devised by him, called the intra-uterine speculum, the cervix having first been dilated with sea-tangle tents. In the discussion which followed the reading of the paper, it was stated by Dr. Churchill and others, that they had constantly adopted the practice with much benefit to their patients.

Dr. Playfair, in commenting upon the paper in the *British and Foreign Medico-Chirurgical Review*, says: "Dr. Atthill's experience, corroborated as it is by other distinguished Dublin physicians, conclusively proves the safety of intra-uterine applications in suitable cases. The risk of this plan seems to be not the strength of the application used, but the preliminary dilatation with tangle tents, which is recommended. The dilatation of the cervix is in itself a serious operation, not unfrequently followed by formidable consequences, and it is an expedient not to be lightly adopted."

ART. 263.—On Chronic Endometritis as a Cause of Abortion in Displaced Uteri.

By Dr. SLAVJANSKY.

(*Edinburgh Medical Journal*, August.)

The author explains the frequency of abortions in connection with flexions of the uterus, by the theory that they give rise to such alterations in the circulation in the decidua, as to produce changes in it which eventually lead to abortion. He gives the details of two cases in which the abortive ovum, in cases of flexion, was very carefully examined. In both changes were observed, which led to the diagnosis of chronic inflammation of the decidua. The author believes that this is not an uncommon cause of such miscarriages.

ART. 264.—A Case of Chronic Inversion of the Uterus in which Reduction was effected by Manipulation.

By GEORGE H. KIDD, M.D., etc.

(*Dublin Journal of Medical Sciences*, July.)

At a meeting of the Dublin Obstetrical Society, June 14th, Dr. Kidd said he was consulted in December, 1872, by a lady, who handed him a letter from Dr. O'Meara, of Carlow, a portion of which he would read, as it gave a graphic account of the case. Dr. O'Meara's letter was dated the 5th November, 1872. He said: "She was confined four months ago and attended by a country midwife. She consulted me for the first time twelve days ago. On examination I found *inversio uteri*. It was caused, I believe, by dragging at the cord to bring away the placenta immediately after the child was born. She has been subject to hemorrhage almost continually since her confinement. I have taken into account the possibility of the tumor being a polypus. I am of opinion it is not, but unfortunately a case of inversion. I desired her to remain in bed for some days after I saw her last. She has done so, and consequently feels so much better that she fancies herself quite well. I have not seen her for the last eight days, and cannot believe matters have altered spontaneously. On two or three occasions the organ protruded beyond the vulva. I have explained the serious nature of the case to the patient and her friends, and have recommended them to consult you." Dr. Kidd proceeded to say that when the patient consulted him he found a tumor in the vagina which, on careful examination, he found to be an inversion of the uterus. It was almost complete, that is to say, the neck of the tumor was surrounded by a portion of the lip of the uterus, but not more than one-fourth of an inch in depth. A section of the tumor would present an appearance like the diagram which he exhibited. He had some doubt as to whether he should call it a complete or incomplete inversion; but it was as complete as any case he had seen; there was nothing but a small lip that had not been turned in. The woman was extremely pale and anæmic, and had a countenance expressive of very great suffering. She came into the Coombe Hospital, and after allowing her to remain in bed a few days, he tried to reduce the tumor. He put her under the influence of chloroform, and placing her on her back on the table, he introduced his hand completely into the vagina. He grasped the tumor in his hand, and compressed it for a few seconds, so as to empty it completely of blood. He then lengthened his fingers, and grasping the tumor between them and his thumb, and compressing it as much as he could, he gradually pushed it up into its place.

There were three methods of manipulation described for reducing an inverted uterus. One of these consisted in an attempt to push back the portion of the uterus which had last escaped; that is to say, to try to push back the narrow portion of the neck of the uterus, to push it up bit by bit, till you gradually get the fundus into its place. Another mode was to begin at the

fundus and try to push it up with the finger or some instrument, re-inverting the tumor; and the third method, which was especially applicable to recent cases, consisted in re-inverting the horns of the uterus first, because it had been observed that the first displacement began at the horns of the uterus. This method was especially applicable to recent cases. He did not know that it had ever been attempted in a chronic case. The choice then was between beginning at the neck of the uterus and getting up the fundus last, or beginning with the fundus first. He tried the former method, beginning at the neck, and pressing it up bit by bit, and finally getting the uterus into a normal position: it passed up slowly and gradually. It was stated in books that very often in such cases when the uterus is partly replaced, the remaining portion goes back with a bound. Such was not his experience. It went up bit by bit, as he pressed his fingers in. To make sure it had quite returned he passed his finger into the cavity and raised the fundus, so that it could be distinctly traced by the hand placed on the hypogastrium. The patient made a perfect recovery, and the only inconvenience she suffered was a slight laceration of the fourchette produced by the passing in of the hand. Though only a single case, he thought he was not the less bound to bring it forward; for it was important to bear in mind that some cases of inversion of the uterus can be reduced by manipulation, when they know that such formidable operations were recommended, as making an incision in the abdominal walls, and dilating the inverted uterus with an instrument like a glove-stretcher, or making an incision into the substance of the uterus as it lies in the vagina, till you come down nearly upon the serous membrane, so as to allow it to dilate. These operations no doubt might be necessary, but it was important to know that many cases could be restored without them; and they should be reserved for very extreme cases, as no doubt the authors of both operations would themselves admit.

ART. 265.—*The Diagnosis and Treatment of Uterine Polypi.*

By THOMAS MORE MADDEN, M.D.

(*British Medical Journal*, September 27.)

At a meeting of the Dublin Obstetrical Society, June 28th, Dr. Thomas More Madden read a long and interesting paper on this subject. The tumors which the author had observed varied in form and size from the small, gelatinous, pea-shaped polypus, growing near the os, to the intra-uterine fibroid, as large as the mature fetal head, attached to the fundus uteri. There were three classes of uterine polypi—viz., mucous, fibroid, and cystic. The first were developed from the uterine mucous membrane or from the glands of the cervix; the second, formed within the pseudo-mucous substance of the uterus, were interstitial, sub-peritoneal, or sub-mucous. The distinction made between intra-uterine tumors and intra-uterine polypi was quite untenable. The most prominent symptoms of uterine polypus were menorrhagia or persistent metrorrhagia, and a profuse or fetid leucorrhœa; enlargement of the uterus, with a sense of weight and fulness in the pelvis, and a varying degree of pain; symptoms of pressure on the bladder or rectum, resulting from uterine displacement; lastly, general anæmia, cardiac palpitation, anorexia, dyspepsia, and irritability of stomach with retching. The treatment of uterine polypi fell under two heads, surgical or curative, and medical or palliative. The revival of the former or surgical method (for it was at least three hundred years old, dating from the time of Ambrose Paré) was due to M. Levret, who in 1749 used the ligature for the removal of uterine polypi from the vagina. In 1829, Dr. Gooch modified and improved this method, but it remained imperfect until Sir James Simpson suggested the dilatation of the os and cervix uteri by means of sponge-tents preparatory to the performance of the operation. Even this procedure was not novel, for Philip Barrough, in the *Methode of Physick*, published in 1639, had proposed dilatation in the mouth of the womb. Dr. Madden described the various methods employed at present for the removal of these growths. The medical treatment of cases of this disease had not kept

pace with the improvements in its surgical treatment. Among serviceable remedies, the iodides and bromides of ammonium and potassium, and iodine in small doses, might be mentioned, a lengthened course being required. Savage's method of iodine injection into the uterine cavity, and brushing over the tumor with a solution of iodine in glycerine (ten or twelve grains in an ounce), were useful. To relieve uterine congestion, tepid or cold local injections were to be commended, administered by means of Dr. Graily Hewitt's vaginal douche, or by a new syringe which Dr. Madden exhibited to the Society. The symptoms of uterine polypi, in cases where operative measures were inadmissible, might disappear under a course at a suitable iodated or bromated spa, such as Kreuznach, Wildegge, or Schinznach. Details of twelve cases of the affection were then given, and the specimens in many cases were shown to the Society.

The Chairman (Dr. Atthill) advocated the surgical treatment of uterine polypi in most cases. Dilatation of the os uteri, for the purpose of applying medicinal agents, was to be avoided as far as possible, the consequences often being severe.

Dr. Kidd could not place much reliance in the treatment of these tumors, either by medicated waters or by chloride of calcium and other remedies.

After some remarks from Dr. H. Kennedy, Dr. Churchill spoke of the dangerous consequences which sometimes resulted from the introduction of even a single sea-tangle tent.

Dr. More Madden replied.

ART. 266.—Case of Fibroid Polypus, complicated with Complete Inversion.

By A. J. FIELD, M.R.C.S.

(*St. Bartholomew's Hospital Reports*, 1872.)

Mr. Field relates an interesting case in which a fibroid tumor, weighing twenty ounces, was attached to the fundus of a completely inverted uterus. From the history of the case, it appears that the inversion must have occurred acutely at the fundus, following down the intra-uterine polypus, as it were, expelled by uterine contractions. The tumor was removed by the écraseur. Subsequently various attempts were made to reduce the inversion, at first by continuous pressure with a caoutchouc bag, afterwards by manipulation of the uterus. These were eventually successful, but not until pressure had been kept up for a period of twenty days.

ART. 267.—On Retro-uterine Hæmatocele.

By Professor DOLBEAU.

(*Medical Times and Gazette*, March.)

In a lecture on this subject, Dr. Dolbeau explains the fact that the hemorrhage in some cases of retro-uterine hæmatocele is very dangerous, and the reverse in others, by the supposition that in the latter it is the result of a pelvic peritonitis of a hemorrhagic form. From some cause or other, a pelvic peritonitis is produced by it, numerous adhesions are formed, shutting off the general peritoneal cavity. In these new bloodvessels are formed, and it is from the rupture of these that the hemorrhage is produced. Analogous instances of hemorrhage are found in meningeal hemorrhage, in cases of arachnitis, and in scrotal hæmatocele. A similar doctrine was advanced by Virchow in 1862, whose claims to priority the author contests.

ART. 268.—*On Retro-uterine Hæmatocele.*

By Dr. F. WEBER, of St. Petersburg.

(Berliner Klinische Wochenschrift, No. 1, 1873; Schmidt's Jahrbücher, No. 3, 1873.)

The author, supported in his views by twenty-three cases, agrees with Küchenmeister concerning the nature of hæmatocele, only with this difference, that he by no means regards extra-peritoneal effusions of blood in the cellular tissue surrounding the uterus and its associated structures as exceptional, since the majority of cases which are accompanied by spontaneous discharge of the contents through the rectum may be regarded as examples of extra-peritoneal blood effusions.

Hæmatocele is amongst the rarest of gynecological lesions, and is met with in scarcely two per cent. of the females treated in a hospital. It is met with especially in young subjects, not being due, however, to the early period of life, but to the activity of the sexual organs at this period. Shaking of the body, in whatever way it may be produced, may be regarded as the most frequent cause of hæmatocele. With difficulty in the diagnosis of an effusion of blood into the pelvic cavity or into the pelvic cellular tissue, especially when this has been of long standing, many indications may be afforded by the symptoms and the manner of origin of the affection. In the cases observed by the author, the hæmatocele always came on with more or less considerable uterine hemorrhage, which, even in moderately healthy-looking and ruddy subjects, brought on anæmia in a wonderfully short time. On the second or third day this hemorrhage was often associated with a tumor in the previously soft abdomen, which extended three or four inches above the symphysis pubis, and in some cases as far as the umbilicus. The rapid formation of this tumor, the urgent indications of a sudden anæmia with but slight external hemorrhage, and the absence of febrile symptoms, render easy the diagnosis of hæmatocele from acute peritonitis. The tumor, which at first feels very soft, soon becomes doughy, and at last presents a firm induration. Under suitable treatment, the tumor diminishes rapidly in size ere it becomes associated with peritonitic symptoms. In doubtful cases the difficulty of diagnosis is much increased by the addition of peritonitis. The absorption of the solid remains of the tumor often goes on very slowly; after long persistence the mass suppurates, the pus at last making its way externally, in most cases, through the rectum. This discharge never takes place in cases of intra-peritoneal effusion of blood. The peritoneum rapidly absorbs even large masses of effused blood, whilst, on the other hand, blood effused in cellular tissue readily becomes putrid and suppurates.

According to Dr. Weber's observations, the prognosis in retro-uterine hemorrhage, with regard to mortality, is favorable. In fresh cases with effusion of blood into the peritoneal cavity termination in complete recovery was common; in cases of extra-peritoneal effusion, on the other hand, in those of old intra-peritoneal hæmatocele, and in those where the pelvic hemorrhage was the precursor of disease of the uterus and associated structures, complete recovery of the patient seldom takes place. It should be remarked that so long as retro-uterine hæmatocele persists there is always a predisposition to a return of the hemorrhage; this fact is of importance in relation to the therapeutics of the affection.

In the treatment of retro-uterine hæmatocele one must endeavor to prevent relapses, to promote absorption of the extravasated blood, and to remove the symptoms that are associated with the main lesion. The first indication is best fulfilled by placing an ice-bag over the lower part of the abdomen. The signs of anæmia indicate the administration of iron, wine, and tonics: the perchloride of iron works both as a tonic and styptic. Incipient pelvi-peritonitis is treated by the author according to general rules, but he takes care not to discontinue the use of ice. In order to hasten as much as possible the absorption of the

remains of the extravasation, blisters are applied at late periods of the affection, and iodine used both externally and internally. The discharge of the degenerated and suppurating mass, the author leaves to nature, and the so frequently commended puncture of the fluctuating tumor through the vagina is rejected. By this latter proceeding the affection is certainly shortened, but as statistics prove, generally in consequence of the death of the patient. The place of election for the spontaneous discharge of the purulent mass is the rectum, and at a point in this portion of the intestine higher than the convenient seat of an operation. Spontaneous discharge of a hæmatocele through the vagina has never been observed by the author.

ART. 269.—On the Treatment of Chronic Cervical Endometritis.

By Dr. LEVY, of Munich.

(*Schmidt's Jahrbücher*, No. 5, 1873.)

The author associates with the ordinary treatment of endometritis cervicalis (dilatation of the cervical canal by sponge-tents, etc., and local treatment of the diseased mucous membrane), the employment of a kind of pressure bandage, which he applies to the portio-vaginalis from without. By means of this, the sponge-tent, or cone of laminaria, is prevented from slipping down from the cervical canal, and the diminution of the thickened and indurated portio-vaginalis takes place much more rapidly under the double pressure of the swelling sponge-tent from within, and of the bandage externally. The author remarks that the application of the compressing apparatus is not unattended with difficulty, and describes two forms, one applicable in cases where the portio-vaginalis is elongated or of normal length, the other in cases where it is shortened.

In the former class of cases, the author, after the introduction of a sponge-tent into the cervical canal, applies over this a thin layer of wadding saturated with glycerine, and then several layers of dry wadding, so that the vaginal portion is entirely covered. If the portio-vaginalis be of sufficient length an elastic ring is pushed over the mass of wadding by means of long dressing forceps; this presses the wadding against the outer surface of the portio-vaginalis, and also increases the resistance to the swelling sponge-tent or cone of laminaria.

In cases where the portio-vaginalis is reduced in length, the author, after the application of the sponge-tent and charpie, introduces through the vagina a strip of gutta-percha rounded at the angles, this strip being a few millimetres in thickness, from three to four centimetres in breadth, and with a length varying according to the width of the vagina. This strip of gutta-percha is bent with the ends upwards, and placed so as to surround the neck of the uterus, and thus to retain the tent and wadding in place. This apparatus is allowed to remain for between eight and twelve hours. After its removal warm injections are applied for two hours daily, and then on the third or fourth day the apparatus is again applied, a larger tent being now required in consequence of the dilatation of the cervical canal. After frequent repetition of this application, the inner surface of the cervical canal is laid free and rendered amenable to suitable local treatment, in which frequently repeated cleansing injections play the chief part.

If the vaginal portion be shortened as well as thickened, the author prevents the tent from slipping away by applying a small clip fixed after the manner of a serra-fine, which closes the external orifice after the introduction of the compressed sponge. In cases of this kind the tent is allowed to remain for twenty-four hours, as with a much thickened and shortened vaginal portion dilatation is generally very difficult.

ART. 270.—*On Puerperal Convulsions.*

By EDWARD COPEMAN, M.D., F.R.C.P., Senior Physician to the Norfolk and Norwich Hospital.

(*British and Foreign Medico-Chirurgical Review*, October.)

Dr. Copeman relates the particulars of fourteen cases of puerperal convulsions occurring in his own consultation practice, of which only one proved fatal. With regard to treatment, he places in the foremost rank venesection, to the extent of relieving signs of external congestion when these are present. After venesection he believes opium to be the best remedy; and it is not, he says, unusual for patients to awake almost well after a long sleep. In some cases the inhalation of chloroform is very beneficial in subduing the convulsive movements and preventing exhaustion, and in others the only way of putting a stop to the convulsions is to put a termination as soon as possible to the labor. Dr. Copeman lays it down as a *general* rule that convulsions before labor require bleeding, and those after labor do not; this, however, not without many exceptions, dependent upon the cause and nature of the symptoms. Convulsions during labor occupy a middle space, and must be treated according as they partake more or less of the other two divisions. Convulsions dependent upon fear or alarm and of an hysterical or epileptiform nature do not require bleeding, but are more satisfactorily treated by opium or inhalations of chloroform. It is said by Dr. Carl Braun, a German physician, that chloroform inhalations are the best means of mitigating and bringing to an end anæmic convulsions, either during pregnancy, labor, or in the puerperal period. The first case related by Dr. Copeman was that of a strong plethoric woman of twenty-five years, who had had an attack of convulsions at the eighth month of pregnancy, with slight indications of commencing uterine action; and under the idea that labor would go on and be accompanied with convulsions, Dr. Copeman was requested to see her. She was largely bled and had a turpentine enema, and, contrary to expectation, she had no more attacks of convulsion, but went on to her full period, and passed through her labor without any complication.

ART. 271.—*On Renal Affections of Puerperal Origin.*

By Dr. AUGUSTE OLLIVIER.

(*Archives Générales de Médecine*, Mai, 1873.)

"It has been long known that albuminuria may exist during pregnancy, independently of the various causes (alcoholism, chilling, syphilis, etc.), which in the pregnant woman, as in any other subject, may give rise to this condition.

"In a former work I mentioned the statistics of Dr. W. Roberts, according to which the rate of mortality in respect to albuminous nephritis is 80 women to 100 men, and this between the ages of twenty and forty years—that is to say, during a period of life when congestion may occur. Beyond this epoch the proportion is smaller, and yet the ordinary causes of Bright's disease exist with the woman as much after as before the age of forty-five years. Before the age of forty-five, however, the influence of pregnancy is to be regarded as a cause.

"From the statistics of the hospitals of Paris for 1861 and the three following years I have collected, taking count only of returns from hospitals for adults, 673 cases of albuminous nephritis; of this number 231 were females and 442 males; the proportion is somewhat less than that given by Dr. Roberts. It is an undoubted fact, however, that the habitual causes of albuminous nephritis are exerted in the case of the woman compared with that of the man, to a smaller extent than is indicated in the above statistics; it is certain, then, that to the habitual causes of nephritis ought to be added one other of importance which has not been sufficiently dwelt upon—viz., pregnancy.

"The process in the kidney is the same as that in the thyroid gland, the heart and the liver—that is to say, the irritative action of a product of conception

causes, as the first disturbance, a subacute congestion, with slight albuminuria, which is not accompanied by œdema, but the slow course of which may result in a chronic condition and determine true Bright's disease.

"But it may happen that the irritative action is intense; then a subacute lesion results, the urine becomes very albuminous, and severe symptoms of eclampsia are often observed.

"Finally, there are cases of Bright's disease in which the affection is not recognized until long after one or several labors, and cannot positively be attributed to any recognized cause. In these cases it is very probable that a congestion of the kidneys occurring during pregnancy and persisting after delivery has been allowed to pass unnoticed; and it may be easily understood why attention had not been paid to the change in the condition of the urine. This slight congestion does not cause any serious illness, and is generally unaccompanied by œdema.

"Let us pass in review, with more attention to detail, the three conditions of these renal disturbances due to pregnancy.

"1. One of the most frequent forms which the albuminuria of pregnant women presents is that due to subacute congestion of the kidney. This variety of albuminuria appears habitually in the last months of pregnancy, but it may occur at an earlier period. M. Bach has observed a case in which it occurred six months after the commencement of pregnancy, and M. Caseaux a case in which it occurred four months before. In a former work I reported a case of a woman whose urine was albuminous from the third month of pregnancy.

"Usually the quantity of albumen contained in the urine is small; frequently there are but traces to be found; the symptoms by which its presence may be revealed are never very evident. Sometimes there is slight perimaleolar œdema, but this is not very apparent and disappears rapidly. In a great majority of cases this form of albuminuria continues until delivery, and shortly after delivery no traces of albumen are to be found in the urine. But it is not always thus: the albuminuria may persist; there may be gradually formed a chronic albuminous nephritis, the symptoms of which are not manifested until long after delivery. Often it is only by seeking with care for antecedents that the disease may be traced back to pregnancy.

"2. We have seen that the albuminuria which accompanies pregnancy may disappear without having determined any serious symptom during its whole course; the congestion of the kidneys, in these cases, disappears together with the productive causes, and leaves no trace. But it may happen that the renal lesion, instead of being restricted to a subacute congestion, may become more intense; then we have to deal with a true acute inflammation, with rapid evolution and determining serious symptoms. These symptoms vary; very often there may exist œdema of the lower limbs and puffiness of the face, and one may hear also of cephalalgia and disturbances of vision. Finally, there may be present all the symptoms of acute nephritis. Under the influence of the special physiological condition of the woman, convulsive attacks sometimes occur suddenly, are repeated, and finally determine death. The fact of the combined action of the nephritis and of the fœtus in utero in the production of eclampsia seems at the present day to have been well demonstrated, at least for a good number of cases. If death does not take place in the midst of these disorders, the albuminuria will disappear after delivery, usually in a very short time.

"3. The two forms of renal lesions just described may pass into a chronic condition. Usually the albumen disappears from the urine very soon after delivery. According to M. Blot, four days is the maximum, and to M. Devilliers and Regnault fifteen days. In one case observed by M. Cohen, albumen was present in the urine eleven days after delivery. In all these cases the albumen finally disappeared, and the patients recovered.

"In analyzing the cases published nearly twenty years ago by M. Leudet on albuminous nephritis consecutive to the albuminuria of pregnancy, one will find that in the first case the albuminuria persisted for twenty-nine days after delivery. The same author refers to a case of Rayer's, in which albumen was found in the urine nearly five months after delivery. In case 3 of Leudet's memoir, œdema came on in the fifth month of pregnancy. The urine was not

examined until the ninth month, but was then found very albuminous. The excretion of albumen was accompanied by attacks of eclampsia, which occurred long after delivery. The patient was delivered on October 16th, 1852, and on March 20th, 1854, she came under the care of M. Rayer with all the symptoms of Bright's disease.

"In a work which appeared shortly after M. Leudet's memoir, M. Imbert-Gourbeyre is still more explicit, as he expressly states that in half the cases puerperal albuminuria disappears rapidly between the second and fourteenth days after delivery, and that in one-sixth of the cases it passes into a chronic condition.

"These facts will suffice to demonstrate the existence of a chronic albuminous nephritis due to pregnancy, and which may persist after delivery, and follow its usual course. This origin of Bright's disease has been disputed.

"Thus according to Rosenstein, pregnancy, though evidently favorable to the production of œdema, albuminuria, and congestion of the kidneys, owing to the diminished density of the blood and compression of the renal veins, is still but rarely the starting-point of serious inflammation of the kidney. Even in the very rare cases in which pregnancy has led to diffuse nephritis it is still more rare for the disease to pass into the stage of granular atrophy.

"Vogel also thinks that in the albuminuria of pregnant women the condition of pregnancy plays no very important part. 'It is due,' he states, 'to occasional causes, such as chilling, etc., which in these cases act more readily on the kidneys.' Probably the direct compression of the ureters may cause stagnation of urine in the calices and pelvis, pyelitis, and, by extension of the inflammation, catarrh of the renal papillæ and the straight tubules.

"However great may be the authority of these two pathologists, their opinion cannot do away with the observations made by the authors whom I have quoted. These observations remain in all their force, and I can add one other proof that pregnancy is really an occasional cause of Bright's disease.

"In 1865 I had occasion to observe in the Hôtel-Dieu a case in which albumen had been present in the urine of a primipara, aged twenty-seven years, from the third month of pregnancy. Delivery took place easily and regularly, notwithstanding the persistence of the albuminuria; but the delivery was not followed by the recovery of the patient. Puffiness of the face was soon observed, and afterwards general œdema. Twenty months after delivery she succumbed, with all the symptoms of Bright's disease in its last stage. An autopsy could not be made, still there could be no doubt concerning the diagnosis, in consequence of the phenomena observed during life and the condition of the urine, which presented under the microscope numbers of hyaline cylinders.

"Even in Germany all authors do not agree in opinion with Rosenstein and Vogel. Lebert in his classical work states 'that it is not so rare an event as is generally supposed for true Bright's disease to be developed towards the end of pregnancy. Of late years I have seen three pregnant women die from this disease, and I found at the autopsies characteristic degeneration of the kidneys; in several other cases the affection has followed after delivery the ordinary course of Bright's disease.'

"To the authority of Lebert I would add that of an English physician, Dr. Roberts, who, in his excellent work on the diseases of the kidneys, states that this subject of the exact nature of the relation between albuminuria and the puerperal condition has been much discussed. Some affirm, he states, and others deny, that pregnancy may be an efficient cause of Bright's disease, the uræmic origin of puerperal eclampsia having also been equally affirmed and denied. There can be doubt, Dr. Roberts goes on to state, that a great number of cases coexisting with or consecutive to pregnancy are but examples of the coincidence of two perfectly independent conditions. Pregnant women are surely as liable as other persons to contract Bright's disease from ordinary causes, and reciprocally female subjects of Bright's disease may become pregnant. But after the elimination of cases belonging to these two categories, there remains a considerable number in which the Bright's disease has been really caused by pregnancy."

ART. 272.—*On Chronic Affections of Puerperal Origin.*

By Dr. AUGUSTE OLLIVIER.

(Archives Générales de Médecine, Janvier et Avril, 1873; Gazette Hebdomadaire, No. 23, 1873.)

This memoir sums up and completes researches that have been carried on for several years, and the results of which have been successively communicated to the Société de Biologie, of Paris. These investigations refer especially to affections of the heart, to hemiplegia, and to puerperal albuminuria. The author now endeavors to associate these different affections and to subordinate them to a common cause—viz., the organic and functional modifications established in the constitution of the female by the state of pregnancy.

Among the chronic lesions of puerperal origin M. Ollivier has especially chosen for demonstration lesions of the thyroid body, the heart, the liver, and the kidneys.

The influence of pregnancy on the production of goitre, first pointed out by G. L. Petit, is recognized by the chief accoucheurs. This form of goitre may be temporary, and may disappear at the end of pregnancy, or it may continue after delivery and become permanent. Sometimes the course of the malady is acute. In one case reported by Dr. Tarnier the goitre was developed with much rapidity, and caused death by suffocation. Sometimes the goitre inflames and suppurates.

The heart also may be affected under the influence of pregnancy. The modification may take place in the muscular tissue or in the endocardium.

Hypertrophy of the left ventricle, as was pointed out in 1828 by Larcher, seems to be of frequent occurrence in pregnancy. Sometimes inflammation and fatty degeneration of the myocardium occur.

With regard to the endocardium, the morbid process may present one of three different forms. The subacute form constitutes the ulcerative endocarditis observed by Simpson in 1856, and afterwards studied by Virchow, Charcot, and Vulpian. The acute and subacute forms do not differ very much from the form of endocarditis observed in cases of rheumatic fever. The attention of Dr. Ollivier was directed especially to the chronic form.

The endocarditic lesions seem to explain certain paralyses, chiefly certain puerperal hemiplegia, which recognize arterial embolism as their immediate cause, the remote and originating cause being a morbid change of the endocardium. It is well known that in ulcerative endocarditis these cerebral accidents of embolic nature form part of the morbid tableau.

The liver is frequently affected in pregnancy. A certain number of instances of simple jaundice evidently recognize this influence. Sauvage and Portal have described cases of this kind, and attribute the jaundice to compression of the biliary passages. It may be stated, by the way, that this explanation is refuted by the single fact that jaundice rarely occurs under such conditions. The influence of pregnancy on the development of intense jaundice and of acute yellow atrophy has been pointed out by Ozanam, Frerichs, and Niemeyer. A more severe lesion—viz., cirrhosis, may be developed under the same conditions. M. Ollivier endeavors to prove that this cirrhosis is the effect of pregnancy, and cannot be attributed to a concomitant cardiac affection, which would not determine a true cirrhotic condition, but rather that special condition of the liver known anatomically under the name of nutmeg liver.

It has long been known that during pregnancy albuminuria may occur independently of anterior causes which usually give rise to this condition. This albuminuria may be temporary and slight, and not productive of harm. There is a more serious form, however, in which it follows an acute course, and is accompanied by puffiness of the face; then the albumen is abundant in the urine. This form generally ends in eclampsia. The albuminuria frequently terminates at delivery, or persists but for a few days afterwards. It may, however, be prolonged, and constitute true Bright's disease, evidently due to the pregnancy itself, and not to influences produced independently of this condition.

In concluding his memoir, M. Ollivier endeavors to determine the common cause of these different maladies which are manifested in the pregnant woman. Leaving out of the question the changes in the blood, he believes that he has discovered this cause in reflex actions, having their starting point in the gravid uterus. These reflex actions are summed up in vaso-motor disturbances, which have for their consequences congestion of the principal viscera. The gastric disturbances of pregnancy have probably the same cause, and also probably have those analogous modifications of circulation and nutrition, to which may be attributed those mental disturbances which, under the form of mania and melancholy, figure in the pathology of pregnancy.

ART. 273.—*On Vaginismus from Lead-Poisoning.*

By Dr. NEFFEL.

(*Brown-Séquard's Archives of Practical Medicine*, March.)

The author describes a case of vaginismus from lead-poisoning, which had come under his observation, in addition to three others already published, in which it resulted from the use of cosmetics containing lead. The present case was that of a young actress, and was traced to the same cause. There was also saturnine colic. The face and extremities were cold; the contractions of the heart feeble, only 44 in the minute. The issue of this case is not given, but in those previously referred to the cure of the plumbism cured the vaginismus.

ART. 274.—*On Vaginal Urethrocele.*

By Dr. GILLETTE.

(*L'Union Médical*, Avril.)

The author relates an interesting example of this condition, in which he found a partial dilatation of the lower portion of the urethra, forming a projection on the anterior wall of the vagina, in which urine collected, and from which it was expelled on slight exertion. This he eventually treated by the excision of a flap of the substance of the vaginal wall, forming the dilated pouch, and bringing the edges together with sutures; and this operation proved effectual in relieving the distressing symptoms.

ART. 275.—*Forcible and Rapid Dilatation of the Cervix Uteri, for the Cure of Dysmenorrhœa.*

By JOHN BALL, M.D., Brooklyn.

(*New York Medical Journal*, October.)

In a paper read before the Medical Society of King's County, New York, June 16th, 1873, Dr. Ball gave the following description of the treatment he has found satisfactory in cases of constricted cervix uteri:—

"My method of procedure is first to evacuate the bowels pretty thoroughly beforehand, so as to prevent all effort in that direction for two or three days; I then place the patient upon her back, with her hips near the edge of the bed, and, when she is profoundly under the influence of an anæsthetic, I commence by introducing a three-bladed self-retaining speculum, which brings in view the os uteri, which I seize with a double hooked tenaculum and draw down towards the vulva, when I first introduce a metal bougie as large as the canal will admit, followed in rapid succession by others of larger size until I reach No. 7, which represents the size of my dilator. I then introduce the dilator and stretch the cervix in every direction, until it is enlarged sufficiently to admit a No. 16 bougie, which is all that is generally necessary. Then I introduce a hollow gum-elastic uterine pessary of about that size, and retain it in position

by a stem, secured outside the vulva, for about a week, in which time it has done its work, and is ready to be removed.

"During this time I keep the patient perfectly quiet, and usually upon her back, which is generally found to be the most comfortable position.

"The effects of this operation seem to be threefold: First, by breaking up all the adhesions, which are often very firm and unyielding, it relieves the constriction entirely, and, acting as a derivative, it cures the hyperæmia of the cervix; and further, it establishes a radical change in the nutrition of the whole organ. For instance, I have operated upon patients who had suffered for years from chronic endo-cervicitis, and when the most gentle touch of the finger would cause excessive pain, when in a few days the sensibility would all be gone, sometimes even before the pessary was removed.

"In cases of flexion the relief is obtained by the straightening of the canal, which is produced by a change of the muscular tissues of the cervix from an abnormal to a normal condition. In the rapid dilatation of the parts, the constricting fibres are, of course, lacerated to some extent; and, in healing up around the pessary, must necessarily conform to their new relation. It was in seeking a remedy for this condition that my mind was first directed to this mode of operation; and, finding the relief so prompt and so effectual, and so safe also, I have been led to adopt the same treatment in all troublesome cases of constriction of the cervix uteri, whether complicated with version, or flexion, or otherwise; and the results have been so gratifying that I take great pleasure in laying them before my professional brethren.

"It would be unreasonable to expect success in every case and under all circumstances, yet I do claim for it a certainty hitherto unattained; and it has this one great advantage—viz., the saving of time, as in my hands it will accomplish more in a less number of weeks than it would take months to do by the ordinary methods. And, according to my own experience, it causes much less constitutional disturbance than the use of tents; and I think it safer even than the metrotome, and free from some serious objections to the use of the latter; as, for instance, when incisions are made through the tissues of the cervix, unless carried deep enough to prevent reunion, they must of necessity form a cicatrix, which will interfere more or less with the dilatation of the parts. And when the operation does not succeed the patient is left in a worse condition than before, while in the rapid and forcible dilatation of the cervix there is no sacrifice of the integrity of the parts, and, being done under the influence of an anæsthetic, there is no shock of the nervous system, and generally but little subsequent suffering.

"While conscious of running counter to the preconceived theories and practice of the profession, I feel quite confident that future experience will sustain me in the position I have taken."

Dr. Ball relates nine cases that have come under his personal supervision, and have proved abundantly satisfactory. He hopes that his experience may not provoke any rashness in others that might serve to bring reproach upon the operation.

Were he asked under what pathological conditions he would recommend this operation, his reply would be, he says, in all cases where any other surgical or mechanical means would be considered advisable, which, of course, must be left to the judgment of the surgeon in charge. He would not interfere, however, in any case where there was acute inflammation of any part of the organ.

ART. 276.—*Acute Metritis occurring in the Seventh Month of Pregnancy during Rheumatic Fever.*

By JOHN WALLACE, M.D., Liverpool.

(*British Medical Journal*, August 30.)

Before reading the history of this case, Dr. Wallace pointed out its unique character. Most systematic writers on midwifery ignore rheumatic puerperal metritis, and the German and French writers refer to a form of chronic or sub-

acute rheumatism. Pointing out that metastasis frequently takes place to the heart, the cerebral membranes, the lungs, and even the peritoneum, as in Mr. McDowall's case (vide *Dublin Hospital Reports*, vol. ii. p. 325), which ended fatally in a few hours, Dr. Wallace stated that the same thing had happened to the puerperal uterus. The patient's history was shortly as follows: She had rheumatic fever, of some days' standing, when about seven months pregnant. Without warning, she was seized with intense uterine pain, which ruptured the membranes, and expelled a dead child and placenta. This was followed by well-marked metritis, tympanitis, suppression of lochia, etc. Treatment relieved her somewhat, and revulsives certainly brought back the rheumatic swelling, etc., into the ankles, but she became worse and died, as if from acute peritonitis. The uterus remained large. No post-mortem examination was allowed.

ART. 277.—Notes of a Case of Imperforate Hymen, with Retained Menstrual Fluid.

By D. LLOYD ROBERTS, M.D., Manchester.

(*British Medical Journal*, August 30.)

The patient was a girl, aged twenty. Under chloroform, a small exploratory trocar was introduced, and after it a larger trocar, through which 84 ounces of thick fluid escaped, and during the subsequent fortnight from 15 to 20 ounces exuded. Some feverish symptoms and abdominal pains set in, but subsided; and subsequently the opening was enlarged with bougies, and the membrane divided on each side. The patient recovered.

Dr. Wallace (Liverpool) suggested that in such cases the fluid should either be withdrawn slowly with the aspirator, or, if it be evacuated by a free incision, the cavity should be injected with an antiseptic solution.

ART. 278.—On the Prevention of Uterine Inflammation.

By EDWARD J. TILT, M.D.

(*British Medical Journal*, August 30.)

The author gave it as an admitted fact that the most frequent cause of uterine inflammation was to be found in parturition and in abortion; and his own experience led him to believe that a tedious labor and a bad miscarriage could hardly occur without entailing more or less of uterine inflammation, frequently overlooked in its onset by the medical attendant, metritis, in one form or another, being the almost inevitable sequel of such cases, although many years might elapse before the disease was recognized. The author proceeded to answer the following questions:—

1. What are the symptoms of a bad getting-up?
2. What are the organic lesions of a bad getting-up that lead to uterine inflammation?
3. How to prevent a natural function from becoming a frequent cause of metritis.

1. After tracing the symptoms of a bad getting-up, the author deprecated the little attention paid to the persistence of a red or muco-purulent vaginal discharge for a month or more after parturition. He wished such cases to be carefully inquired into, instead of being treated in a haphazard fashion by tonics and change of air.

2. Although a natural function, parturition had too often untoward results, such as defective uterine involution, placental ulceration of the womb, contusion and laceration of the cervix. Laceration of the cervix was represented as very common, particularly after tedious and instrumental labors. The healing by first intention of these lacerations was given as the rule when they were not extensive and when women were healthy; but if, on the contrary, these lacerations were extensive, they did not heal in sickly women, and had originated

some of the worst cases of uterine inflammation that the author had seen. Under similar unfavorable circumstances of health, the bruising of the cervix by a tedious labor was represented as beyond the power of the womb to repair, unless by the repair of ulceration thus produced. Ulceration of that part of the womb to which the placenta had been attached was considered a rare disease, sometimes following the forcible tearing away of the placenta from the womb, and originating one form of internal metritis characterized by frequent flooding. The most important and most frequent cause of uterine inflammation and of other diseases of the womb was said to be defective uterine involution. To an exaggerated belief in the safety of a natural function was ascribed the fact that medical men too often neglected to ascertain accurately what were the organic lesions that impeded a patient's recovery after parturition; so that, as a rule, defective involution was only recognized when time had confirmed and made it more difficult to cure.

3. The measures calculated to prevent parturition being a frequent source of metritis, were represented to be the logical deduction of the right appreciation of the damage done to the womb by parturition; and it was strongly urged that when, at the end of four or five weeks after parturition, notwithstanding fair nursing, food, wine, and tonics, women still continued weak, with persistent back-pain and muco-purulent or red vaginal discharge, instead of blindly trusting to nature, it would be wiser to ascertain, by an accurate examination, whether the inability to recover health did not depend on one of those organic lesions that could not be cured without the calling in of surgery in aid of nature. The same line of conduct was advised when women were recovering from parturition who had previously suffered from uterine disease, on account of its liability to relapse. The unusual severity of uterine inflammation that originated in abortion was said to depend on the absence of definite rules of conduct to be observed by women after miscarriage, and on the little care they then took of themselves; whereas Dr. Tilt wished the profession could persuade the public that a month of convalescence was not too much to exact after a moderately bad miscarriage; and that if, at the end of that time, a patient did not recover strength, could not walk, had pelvic pains and a red or muco-purulent vaginal discharge, the cause of these symptoms should be carefully investigated. The author stated the difficulty of curing defective uterine involution to be in direct proportion to the time it had already lasted; and he therefore urged its speedy recognition. He recommended leeching the cervix if there were signs of active congestion of the womb, the internal administration of ergot and of iodide of potassium, the painting of the lower part of the abdomen with oleate of mercury, and vaginal injections. It was also admitted that pregnancy had sometimes cured the mischief done by a previous one. Dr. Tilt concluded by emphatically asserting that, by a judicious management of lying-in women, and of those recovering from abortion, uterine irritation and congestion would be reduced, and lacerations healed; and that uterine inflammation would be checked in its origin, and at all events, its acuteness and duration would be greatly diminished.

Dr. Steele (Liverpool) doubted the utility of vaginal injections as curative agents in inflammation within the cavity of the cervix or uterus, which could only be successfully combated by medication at the seat of the disease. He also thought there would be some difficulty in so localizing internal metritis as to justify the term placental ulceration.

Dr. Thomson (Edinburgh) believed that subinvolution was a frequent cause of uterine ailment.

Mr. Bracey (Birmingham) endorsed many of the views expressed in the paper, which he regarded as a most valuable communication. He understood that vaginal examination was recommended only when convalescence did not proceed favorably.

ART. 279.—*Case of Stricture or Atresia of the Female Urethra.*

By J. WALLACE, M.D., Liverpool.

(British Medical Journal, August 30.)

After pointing out the different causes of obstruction of that tube, he referred to the almost complete silence on that subject of nearly all the systematic writers on surgery, midwifery, and gynaecology. Referring to Sir B. Brodie's case (vol. ii. p. 455), where it is stated that the orifice of the urethra is nearly always the part affected, the following history of Dr. Wallace's case was given:—

Mrs. B., aged thirty-six, suffered from retention of urine and dribbling for nearly twelve years, for which she had consulted several medical men without relief. The urethra was so closed as not to admit the smallest probe. It was drilled open with Lister's probe forceps, but closed in three weeks, although Dr. Wallace had passed the finger into the bladder. It was again dilated, and incised laterally at the neck of the bladder with Simpson's hysterotome. In three weeks it had again closed at the external orifice. It was opened again, and was now, at the end of six weeks, remaining open. The patient was cured. A catheter for permanent wear was shown, which would be introduced if the urethra closed again.

ART. 280.—*Treatment of the Flexions of the Uterus.*

By THOMAS SAVAGE, M.D., Birmingham.

(British Medical Journal, August 30.)

The cases were taken from the out-patients seen by Dr. Savage, at the Hospital for Women, and were limited to flexions of the nulliparous uterus. The object of the paper was to advocate the use of an intra-uterine stem. In all cases where recourse was had to this plan the symptoms were improved, and great relief was given without any of the dangerous or serious after-effects which are sometimes said to arise. Even in the case of the unmarried, the symptoms were so severe, the relief from the instrument so marked, that Dr. Savage did not think it right to withhold from such patients the benefit of treatment advocated. Dr. Savage had used intra-uterine stems for retro-flexions and ante-flexions in forty-four women who had never been impregnated, and in not one had any ill effect followed. The discharge, slight, as a rule, even when profuse, had not been found troublesome, and could be kept in check by the frequent use of ordinary astringent injections. It had always seemed to disappear on the use of the instrument being discontinued. Dr. Savage had tried the galvanic stem as usually sold; also the modification of it, as suggested by Mr. Lawson Tait—i. e., with a bulbous extremity, the plain vulcanite stem, Dr. Greenhalgh's stem, one devised by Mr. Ross Jordan, with a perforation near the extremity, through which was passed a thread of India-rubber, after the manner of the winged catheters; but the tendency of all was to slip out. Dr. Chambers's stems seemed most likely to remain in without other assistance, but in two instances they too escaped. The padlock of Dr. Graily Hewitt was in some cases an admirable contrivance, and most frequently remained *in situ*. The best means to adopt was to insert the stem, and keep it in place by a shelf-pessary cut small, or a small ring elongated, and moulded to the size and shape of the vagina. The supports of Dr. Wynn Williams seemed to be very useful. It did not seem at all clear why the stem slipped out in a few hours in one patient, while in another it was retained for weeks or even months. Dr. Savage gave some illustrative cases.

ART. 281.—*Report of a Case of Ovarian Dropsy, with unusual Quantity of Fluid.*

By E. G. BRUNKER, M.D.

(*Dublin Journal of Medical Science*, August.)

At a meeting of the Dublin Obstetrical Society, the secretary read the following communication from Dr. E. G. Brunker, of Dundalk:—

Rose Rooney, a married woman, forty years of age, was admitted to the Louth County Infirmary on the 19th of July, 1872, laboring under ovarian dropsy. Her appearance on presenting herself was most extraordinary, from the enormous size of the abdomen, the circumference of which measured sixty-three inches (five feet three inches). Her countenance did not exhibit any sign of distress. Breathing free, functions of bowels and kidneys healthy, slight emaciation. She appeared to have no source of complaint but, from the vast distension of the abdomen. She stated that the abdomen had been gradually increasing in size for some years, and that, notwithstanding, about a year before she came to the infirmary she gave birth to a healthy child, at full time, who survives. Since the birth of this child she says she occasionally, but not regularly, menstruates. The patient was placed in the recumbent position, the abdomen projecting considerably over the edge of the bed, and the operation of paracentesis performed, when *ten gallons* of a dark, oily fluid were drawn off. No distinct tumor could be detected when the abdomen was emptied. No bad symptom whatever supervened, and the patient, of her own accord, returned home on the 2d of August, having been but fourteen days in the infirmary.

As it was evident that the abdomen was filling up and would again require to be tapped, she was advised to return for that purpose before it became as much distended as before.

She was readmitted to the infirmary on the 6th of June, 1873. The abdomen was about the same size as on the former occasion, being five feet three inches in circumference. She still retained a healthy appearance, did not suffer from dyspnoea, was able to lie down flat in bed, and made no complaint but of the bulk and weight of the abdomen; no swelling of legs.

She was placed in the same position as formerly, and the same quantity (ten gallons) of oily fluid, but of lighter color, drawn off. No tumor could be detected. The abdominal walls were, of course, extremely flaccid, and were supported by a broad, firm roller. No occurrence of syncope.

She says, since her return from infirmary, in August last, she has led a very active life, and enjoyed good general health, even occasionally menstruating.

ART. 282.—*On Psychical Disturbances of Puerperal Origin.*

By Dr. AUGUSTE OLLIVIER.

(*Archives Générales de Médecine*, Mai, 1873.)

"These disturbances, states Dr. Marcé, are of two kinds; some constitute simple moral disarrangements which do not deprive the patient of her free will, but impress quite a peculiar character on her conduct and physiognomy; others present a state of mental alienation variable in form, but quite characteristic.

"The two principal forms of what is called puerperal insanity are melancholia and mania. It is necessary to bear in mind that under this title of puerperal insanity is comprised not only the insanity which occurs in the pregnant woman, but also that observed after pregnancy and during the period of lactation. As I would restrict the instances of insanity which I propose to study to those which are developed in the pregnant woman, and which do not recognize as their cause either hereditary or continuous and prolonged moral disturbance, it is necessary that no other cause than pregnancy should be found for the insanity.

"Although insanity does not frequently come on during pregnancy, authors on this subject have been able to collect a fair number of cases. From 310 cases collected by Dr. Marcé, the insanity came on during pregnancy in 27 cases, soon after delivery in 180 cases, and during the period of lactation in 103 cases.

"Dr. Tuke, who tabulated 155 cases of puerperal insanity that had been observed in the Royal Asylum, Edinburgh, found a very different proportion; 28 cases of insanity during gestation (a proportion almost double that given by Dr. Marcé), 73 soon after delivery, and 54 during lactation.

"The influence of pregnancy, and of pregnancy alone, has been in some cases found quite indisputable. Thus Dr. Montgomery has reported the case of a woman who became maniacal at each pregnancy, and this during eight successive pregnancies. Shortly after each delivery she recovered her reason.

"The insanity of pregnancy may be temporary, and may terminate in cure. This is what most frequently occurs. Sometimes, however, the cardiac disturbances are so intense as to cause death (according to Dr. Marcé in one out of 19 cases).

"The insanity of pregnant women may be regarded as allied to certain coincident affections of other organs than those of the nervous system, such as puerperal goitre, puerperal icterus, and puerperal albuminuria.

"But in the same way that these affections may persist after delivery and acquire the chronic form, so also may the insanity of pregnancy, which may disappear or terminate fatally, become chronic. Recovery, death, and a state of dementia are the three modes of termination of puerperal insanity indicated by authors."

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 283.—*On Debility in Children.*

By WILLIAM HENRY DAY, M.D., M.R.C.P., Physician to the Samaritan Free Hospital.

(*Diseases of Children*, pp. 191, London, 1873.)

Dr. Day, in an essay on the above subject, enumerates the following well-defined symptoms: Powerlessness and lassitude of the whole system; the child hangs and drops about; he has generally a shy and timid look. In most cases there is neither discomfort nor pain, the bowels are not very regular, and the evacuations are scanty, from the small amount of food that is taken. The tongue is clean and moist, it may be pallid, but indicates no active disturbance. Sometimes there is a film on the tongue of a thin silvery whiteness, or the coating is thicker and yellowish; but the front of the tongue is never involved, the tip and sides showing a natural hue; sometimes it presents a smooth and dusky aspect. The pulse is weak, small, and usually slow; sometimes rather accelerated, owing to nervous excitement induced by the examination. The skin is often cool. The patient is frequently noticed to be lying across a chair or sofa in a passive state of indifference, dropping off into a calm and prolonged sleep—the quiet sleep of fatigue, not the restless sleep of exhaustion. The two most common attendant symptoms are headache and pain in the epigastrium.

The importance of an early recognition of these symptoms must be apparent when we learn that such cases, when neglected, cause chorea, epilepsy, convulsions, paralysis, etc., and partly lead to those changes in the blood which originate anæmia, tuberculosis, and every form of diabetes that lowers health and produces disease.

ART. 284.—*Electricity in Infantile Palsy.*

By Dr. DUCHENNE.

(*De l'Electrisation Localisée*, par le Dr. Duchenne de Boulogne, Paris, 1872.)

In a review of Dr. Duchenne's work, Dr. Clifford Allbutt states, in the *British and Foreign Medico-Chirurgical Review*, October, that Duchenne

speaks cheerfully of the prospects of treatment in the above hitherto rebellious affection. In early cases he makes a very favorable prognosis, and few cases are so advanced or so bad as to make him despair of some measure of relief. The rules, as given in chap. iv., art. i., Dr. Allbutt condenses as follows: 1. Avoid faradism at the onset, when fever is present, and treat the patient by other appropriate means. 2. In two or three weeks, when all febrile conditions have subsided, we must use localized muscular excitation; and, in connection with this, the author advises the use of certain internal medication, which seems to Dr. Allbutt to be at least of doubtful value, such as "revulsives addressed to the skin and intestines, calomel, and strychnine." 3. In order to alarm and pain the child as little as possible, the intermittences of the current are to be made as distant as possible. In this way, Dr. Duchenne says that faradization may be practised for a long time, and so as to cause energetic muscular contractions without unduly distressing the patient.

ART. 285.—*On the Treatment of Enlarged Scrofulous Glands.*

By J. LEWIS SMITH, M.D.

(*Treatise on the Diseases of Infancy and Childhood*, 2d edition, London and Philadelphia, 1872.)

"It is the common practice," Dr. Smith writes, "to treat these glands, if they are subcutaneous, by daily application over them of the official tincture, the compound tincture, or the compound ointment of iodine. It is my opinion, from observing the effects of these agents, that they are too irritating for ordinary cases. Applied daily, they cause proliferation of the cells of the epidermis, so that in two or three days the thickening of the cuticle is greatly increased, and its external layer begins to exfoliate. It has appeared to me that what we observe in the epidermis illustrates, to a certain extent, what occurs in the gland underneath, as a result of active counter-irritation. The gland does not resolve, its superfluous cells are not destroyed and absorbed, as was desired, but the treatment tends rather to increase the proliferation of the cells of the gland or the formation in it of true leucocytes. We have seen that a local cutaneous inflammation, as eczema or impetigo, is apt to cause the neighboring lymphatic glands to enlarge. How, therefore, can we expect to reduce a glandular swelling made by a mode of treatment which establishes a similar condition? I once produced, partly by accident, such an amount of vesication over an enlarged, hard, and apparently somewhat indolent gland, in an infant of fourteen months, that for a week I was very anxious lest a sore would result, which would heal with difficulty, or leave a permanent cicatrix, and yet, instead of dispersion of the glandular swelling, the pathological processes were so promoted that suppuration and discharge of pus occurred by the time that the cuticle had re-formed. If hyperplasia of the lymphatic gland could be cured by counter-irritation, it should have been in this case.

"The correct mode of treating these glands, therefore, as regards external measures, I hold to be, to apply the iodine preparations in such a manner that the largest amount of iodine will reach the glands by absorption, with little irritation of the skin. I am not prepared to state what is the best formula for the application of this agent. During the last few months we have been attempting to determine this in the children's class at the Out-door Department at Bellevue, but our statistics of cases are not at present sufficiently complete or numerous to enable me to make a positive statement. I feel justified, however, from the observations already made, in recommending the following formulæ as preferable to the official preparations which are commonly employed: R. Potas. iodidi, ʒj; ung. stramonii, ʒj; misce; to be rubbed over the gland several times daily. It should not be applied as a plaster, as it is too irritating and will vesicate. I have known a glandular swelling, which had continued about three months, to disappear in as many weeks under its use in connection with internal remedies. Glycerine may be employed in place of stramonium ointment."

ART. 286.—*Diseases of the Chest in Children: their Treatment by Blisters.*¹

By DANIEL MACLEAN, M.D., Glasgow.

(*British Medical Journal*, August 30.)

This paper advocated the use of, and necessity for, the application of small blisters behind the ear in cases of acute disease, or the acute stage of disease of the chest among children and infants. The author had used this treatment in many appropriate cases, and had found great benefit from its adoption. He founded it on the fact that the nervous system played an important part in all the diseases of the young. Any abnormal action going on in the brain modified the proper influence of that centre upon the tissues at a distance, and gave rise to pathological actions in distant parts. With regard to the lungs, an abnormal action, continuing in a certain part of the encephalon for a time, was conveyed along the efferent fibres of the vagus to their peripheral terminations in the lung-tissue, and stimulated the tissue to pathological action, thus giving rise to disease in the lungs, from a cause at a distance from the lungs themselves. Again, an excessive irritation of the peripheral terminations of the nerves in the lungs, as in bronchitis, pneumonia, etc., passed along the efferent fibres of the nerves to the brain, and by its continued irritation there became a cause of convulsions, hydrocephalus, etc. This mutual action of the nerve-centre and lung-tissue through the afferent and efferent filaments of the pneumogastric nerves, the author held to be the principal cause of the great mortality from chest affections among children. This irritation accounted for the nervous symptoms frequently exhibited by children in these disorders. The greater the amount of nervous sensitiveness and irritation, the greater the danger. For the removal of this important element in chest-disease, the author recommended the use of blisters on or near the course of the nerves supplying the lungs; a convenient and advantageous spot being behind the ear. This treatment was explained, and the use of blisters generally defended.

ART. 287.—*Diarrhœa in Teething.*

By FRANCIS MINOT, M.D.

(*Boston Medical and Surgical Journal*, January 2.)

In a clinical lecture "On the Primary Dentition of Children," by Dr. Minot, in speaking of the diarrhœa complicating teething during hot weather, he recommends the common chalk mixture, with the addition of one-fourth part of tincture of kino, which increases its astringency, and also keeps it from turning sour in hot weather. If the diarrhœa be not checked by this mixture, one drop of laudanum may be added to a dose, but not oftener than three times a day, in children under two years old. Diarrhœa is most apt to attack children who are brought up on the bottle; hence, if the case be urgent, and do not yield to treatment, a wet-nurse should be procured if possible. When this cannot be done, he would strongly recommend the method of preparing the milk with arrowroot and gelatine, found in the treatise on "Diseases of Children," by Drs. Meigs and Pepper. Brandy is very useful to a teething child exhausted by diarrhœa, which should be given once in three or four hours, or oftener in urgent cases. The dose is ordinarily from five to twenty-five drops, given in milk; but if there be much prostration, the physician need not fear to increase the amount.

¹ Read at the Forty-first Annual Meeting of the British Medical Association.

ART. 288.—*Pneumonia in Children.*

By J. STEPHENSON, M.D.

(British Medical Journal, November 29.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, Nov. 5th, Dr. Stephenson read a paper on pneumonia as observed in children. The author regarded the clinical chart, *i. e.*, the record of temperature, pulse, and respiration, as the true representative of the disease, and of higher value, practically and scientifically, than the physical signs. By its means the different forms of pneumonia could be more readily differentiated, and diagnosis was greatly facilitated. The latter point was of special value in children, from the greater frequency of the cases where the physical signs remained latent for a longer period than was usual in adults; the occurrence of cases where the physical signs were very slight, and the greater frequency of the affection attacking and limited to the apex. The acute primary pneumonia was only dealt with in the present paper. It presented in children the same typical chart as in the adult. Cases, the author believed, frequently occurred in which there was absence of chest-symptoms till late in the disease, and such were often mistaken for fever. The immediate development of a high pyrexial state, with delirium, should always direct attention to the chest. By careful watching in such cases, the author had frequently detected a very limited amount of lung-lesion, which might readily have been overlooked. The early delirium he considered a very important symptom. In pneumonia limited to the apex, the physical signs were, as a rule, latent till the fifth day. To this there was an exception of a very fatal class, where the consolidation was complete from the first. This class the author separated entirely from the others. When the febrile state was prolonged beyond the natural period, an effort at a crisis could always be detected about the fifth or sixth day. Whilst the course of temperature and pulse was typical and constant, no relation was perceptible between it and the occurrence of the physical signs, either in time or in degree. The severity or favorable character of a case was not to be estimated by the height of the temperature; a higher range was met with in some of the favorable cases than in the fatal. It was less by the height of the temperature than by the relation of the pulse to the temperature, that an opinion as to prognosis was to be formed. A temperature of 104° in the fatal cases was associated with a pulse from 144 to 150; in the favorable with 130 to 136. The evidence of success in treatment could never be represented by an aggregate mortality, and no true result could be obtained by grouping together a large number of cases with only the one connecting link of the physical signs of pneumonia. There could be no true cutting short of the disease; where such a term was used, it could only apply to the prolongation out of due limit of the affection. The test of treatment should be the closeness with which the fever accorded to the normal type. It was not necessary to show any material lowering of the temperature or pulse so long as these were within the normal range; but it was essential, whether the range was affected or not, that the typical course should be retained. Active treatment tended to alter the course, especially prolonging the stage of convalescence. The complex nature of fevers was recognized in the science, but very little in the art of medicine. The tendency of the present day was to take the temperature and pulse as the sole constituents, or representatives, and to estimate treatment by them alone. But there was another element which we could as yet only inferentially estimate and could not record. This element the author called tension; the degree of tension made up the difference between two cases which presented the same average temperature. Treatment might be directed towards it, and we might succeed in lowering the tension without affecting the temperature. An estimation of the tension might be obtained by the relation between the temperature and pulse, and the amount of oscillation between the morning and evening temperature. Treatment directed to lower tension might be represented by an actual rise in the pulse. These

several points were illustrated, by reference to the cases recorded, with carefully drawn clinical charts.

The President, in conveying the thanks of the Society to the author, alluded especially to the value of the observations on tension, also on treatment, and its value in cutting short or modifying the disease.

Dr. Matthews Duncan had been especially struck by the uniformity of the clinical charts of acute primary pneumonia, illustrating, as they did, the sudden rise of temperature at the outset, which was followed by a sort of table-land of high temperatures lasting from five to seven days, and followed by an equally sudden fall. He thought Dr. Stephenson's data gave him a right to isolate these cases from the rest under a special head. The other sets of cases did not appear to him to be so distinct or characteristic.

Dr. G. W. Balfour was rather disposed to agree with Wunderlich in thinking that in pneumonia temperature was not of much consequence. After excluding catarrhal pneumonia and broncho-pneumonia, he recognized three types of pneumonia in adults differing in the following temperature characteristics:—

1. Cases in which the temperature rose suddenly, and after a day or two fell with equal suddenness; in this embolic or cedematous form no treatment was possible or required.

2. Cases in which a sudden rise was followed by five to seven days of high temperature, and then an equally sudden fall; these might be improved or cut short by treatment.

3. Cases in which a gradual rise was followed by three or four days of high temperature, and then by an equally gradual decline. He was much interested in the question of tension.

Dr. James Carmichael alluded to a remarkable hyperæsthesia of the skin over the inflamed part of the lung which he had recently noticed in three cases in children; and also alluded to the interesting question as to the future history of cases of apical pneumonia in relation to phthisis.

Dr. Stephenson, in reply, alluded to the way in which treatment often caused variation in the clinical charts of pneumonia cases, specially in the direction of retarding the fall in temperature at the end.

ART. 289.—*On the Treatment of Hydropneumothorax by Puncture of the Chest and Washing out the Pleura.*

By Dr. SANNÉ, of Paris.

(*Gazette Hebdomadaire*, No. 33, 1873.)

The author records a case of pyopneumothorax commencing suddenly in a child, aged ten years. Thoracocentesis was performed, and the opening in the wall of the chest dilated. The pleural cavity was subsequently washed out, a siphon being used, and a catheter with a doubled current. The patient was cured at the end of the third month. The following remarks are given concerning this case:—

"It is evident that the infant in this case recovered from a disease of undoubted gravity, which would, if it had been left to itself or subjected to a less radical treatment, have infallibly terminated in death. The very existence of hydropneumothorax, a disease which does not get well spontaneously, and also the appearance of alarming symptoms, such as the putridity of the pus, its rapid reproduction, the symptoms of poisoning (shivering, fetid odor of the secretions and stools), prove this fact. The washing out of the pleura was of undoubted utility in this case. Everything justifies this view, not only the result, but also the surprising amelioration which followed the first complete injection.

"A very important point in this case is the treatment by puncture and injections of a sudden attack of pyopneumothorax. In an interesting case reported by M. Laboulbène, pulmonary perforation, occurring during the treatment of purulent pleurisy, was treated by puncture and injections containing iodine. Here the existence of pulmonary perforation became evident on punc-

ture, and it then became necessary to direct immediately the effects of treatment against the complex morbid condition thus revealed.

"From this case we learn that it is possible to treat with prospect of success spontaneous pyopneumothorax, and, *à fortiori*, hydropneumothorax, presenting itself under similar circumstances. Hitherto hydropneumothorax has been regarded as an incurable affection; the rare attempts to treat the disease by puncture gave results so discouraging that they were generally abandoned. Every subject of this cruel malady was doomed to certain death, and the gravity of his condition seemed to be placed beyond relief from art.

"It having been proved by M. Laboulbène that copious injections into the pleura may be reasonably applied in cases of secondary perforation, there were full indications for applying his system in cases of primary perforation. This has since been done, and with success.

"Hydropneumothorax, then, is curable, and the necessity of undertaking its treatment is imposed on every practitioner. I should not fail, however, to add that this precept must be taken with reserve, and that I have in view only simple hydropneumothorax. I would guard myself from making so positive an assertion if I had to deal only with pulmonary perforation occurring in tuberculous or cancerous subjects.

"The patients treated by M. Laboulbène and myself were not tuberculous; the pulmonary perforation was accidental, and capable of ready cicatrization. Tuberculosis would certainly have presented obstacles to cicatrization, and the cases would not have progressed so favorably. Abstention, then, seems to be the rule in tuberculous cases; moreover, this rule ought to be scrupulously followed if the pulmonary perforation in a tuberculous patient have occurred at an advanced period of the disease, when it would be at least useless to undertake a proceeding not exempt either from danger or fatigue to the patient—the state of *œchexia* being considered—in the hope of bringing about a chimerical and certainly temporary amelioration.

"In a case where there is doubt as to the presence of tubercle, as often happens in an infant, the treatment by operation would be attended by uncertainty, but still doubt alone would not justify one in neglecting this treatment.

"The mechanism by which perforation took place in my case deserves to be noted. The infant was emphysematous, and it was during the course of a slight attack of bronchitis, and probably under the influence of an effort to cough, that a dilated vesicle was ruptured, so as to allow the passage of air into the pleural cavity.

"By many authors pulmonary emphysema is mentioned as a possible cause of pneumothorax in consequence of rupture of a vesicle; it is not less true, however, that this consequence of emphysema has been observed only in extremely rare cases. On this account alone my case deserves to be taken into consideration.

"It may be objected that as the symptoms of emphysema had disappeared several years previously, the actual existence of this morbid condition could not be proved. This is just. Still, though most of the vesicular dilatations had disappeared, it may be admitted that a small number, or one vesicle, had remained, and was ruptured during an effort to cough.

"It may be remarked also that emphysematous distension of the pulmonary parenchyma had not constituted an obstacle to the rapid cicatrization of the perforation; the utility inherent in the age of the patient had rapidly counterbalanced the unfavorable nature of the local organic disposition.

"There is one other point to which I desire to direct attention. In the recent discussion at the Academy of Medicine on the treatment of purulent pleurisy, and in several remarkable works written on the same subject, the necessity has been insisted upon of performing the operation for emphysema in cases where it might be supposed that the pleural cavity contained false membranes too large to be extruded through the opening made by the trocar. This practice is perfectly rational, though probably somewhat absolute. During the treatment of my little patient large fragments of false membranes were frequently discharged, and that, during a long period, the returning stream of injected water carried with it a great quantity of small fibrin and white frag-

ments of similar material. There is produced, then, under the influence of the current which traverses and washes every corner of the pleural cavity, a disintegration of the pathological products which permits them to pass freely through an orifice too large to allow their exit in one piece. An opening made by an ordinary trocar, and slightly dilated by laminaria, suffices, then, to meet this difficulty, and fulfils all conditions. Would it be possible to stop here in every case? This is a question that I will not undertake to answer. Whatever may be the answer, the above method should be tried at first; if it should not succeed, recourse can be had to further proceedings. I am far from wishing to discredit the operation for empyema; no one is more convinced than myself of the excellent results of this operation, but as it constitutes a true operative proceeding, its employment might be dreaded by some practitioners, who would not hesitate to carry out a simple proceeding and one so readily executed as that employed on the patients of M. Laboulène and myself."

APPENDIX.

FARINA VITÆ.

We have received a packet of food bearing the above name, with a letter requesting us to submit the article to analysis and report upon the same. If pronounced inferior to the numerous farinaceous articles of diet now before the public, we are informed that it will not be introduced, but if pronounced better it will at once be brought forward. After such preface we may remark that we have made a most careful analysis of the meal, and have no hesitation in according a verdict in favor of Farina Vitæ. As an article of diet it is immeasurably superior to any other of a similar nature with which we are acquainted. The "corn-flours," "maizena," and "revalenta Arabica" are known to consist principally of starch (*amylum*), for which reason we contend that all such meals ought to be excluded from the dietary of infants and adults. Farina Vitæ is especially rich in albuminous substances—products so essential to the healthy organization of the blood, tissue, bone, etc. It contains an average quantity of fatty or heat-forming matter, and is particularly rich in salts, especially phosphates. We have also found potassa, magnesia, lime, iron, and phosphoric acid, from which we conclude that the meal consists chiefly of wheat, barley, oatmeal, pea-meal, and rye, though it is not improbable that other cereals known to contain a large quantity of protein may all have some share in the happy combination of Farina Vitæ. For "rickety" children and for persons suffering from debility, no matter from what cause it arises, Farina Vitæ would prove an admirable corrective; whilst for that not uncommon malady—constipation, the meal is simply invaluable. Taken, as the Scotch take their porridge, an hour before breakfast, or the last thing at night, or as a substitute for any repast; or, in fact, as in any of the numerous recipes given, it must be looked upon as a most valuable addition to every household; and since it contains more nutriment, weight for weight, than three times the quantity of meat, and is extremely cheap, being only one-half the price of the much-vaunted revalenta Arabica, it might be used largely by the poor, as well as in our numerous workhouses and other institutions.

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